NEW!

FREE MIRYE SHADE 8.5 FULL PRODUCT WORTH $249

www.3DArtistonline.com

3DArtist™ 03

Practical inspiration for the 3D community

40 Pages of expert creative guides

MODO Create an Aliens v Predator pool room challenge

3ds Max Space age conflict, models and textures

Maya Start modelling our massive tutorial from scratch

Lightwave Latest version reviewed

CREATE THE COVER

MODEL WITH 3DS MAX

Discover the modelling, texturing and lighting techniques used to make this image

• Step-by-step tutorial

Materials in Modo

Create slimy surfaces and armour

• Your questions answered!

Ageing skin

How to sculpt faces for wrinklies

Plus: Stephan Martiniere comes clean on id's Rage and Knowing with Nicholas Cage

Reviews: Lightwave - latest version, Bonzai3D, Xara 3D v6, DAZ3D Girl 4 and latest books for Maya and Max

inside

• Massive two part tutorial

Using Maya's Physical Sun & Sky

Model and light a classic 50s diner from scratch

LIONHEAD STUDIOS

Behind the scenes with Fable II and Knothole Island

FREE DISC WORTH $300

• Feature

ARTIFICIAL INTELLIGENCE

How CGI characters are replacing people in film

ip IMAGINE PUBLISHING

DAZ3D Girl 4
Sexy new base model

Xara 3D v3
Render shiny text logos

Free 3D software
Shade 8.5 worth $249

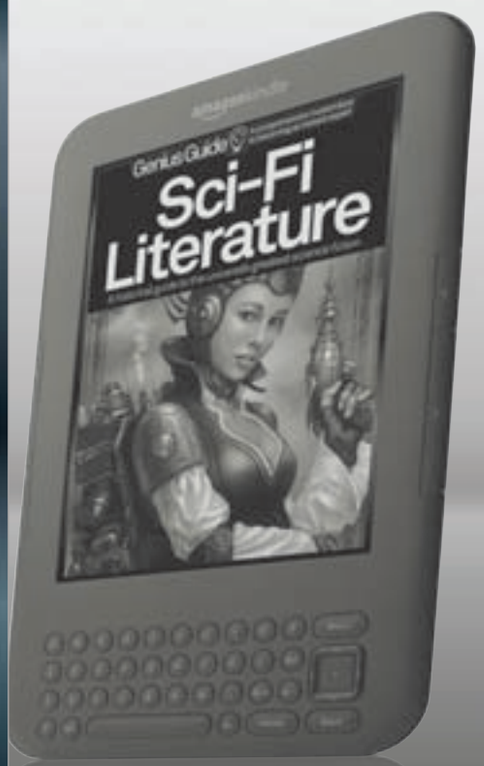
ON YOUR FREE CD

ic Publishing Ltd
No unauthorised copying or distribution

Pass our knowledge off as your own

iPad

Printed full colour large format book



Kindle

Genius Guide™

Know more with world-leading features and tutorials on everything from Mac OS X to War Of The Worlds

Also in this series

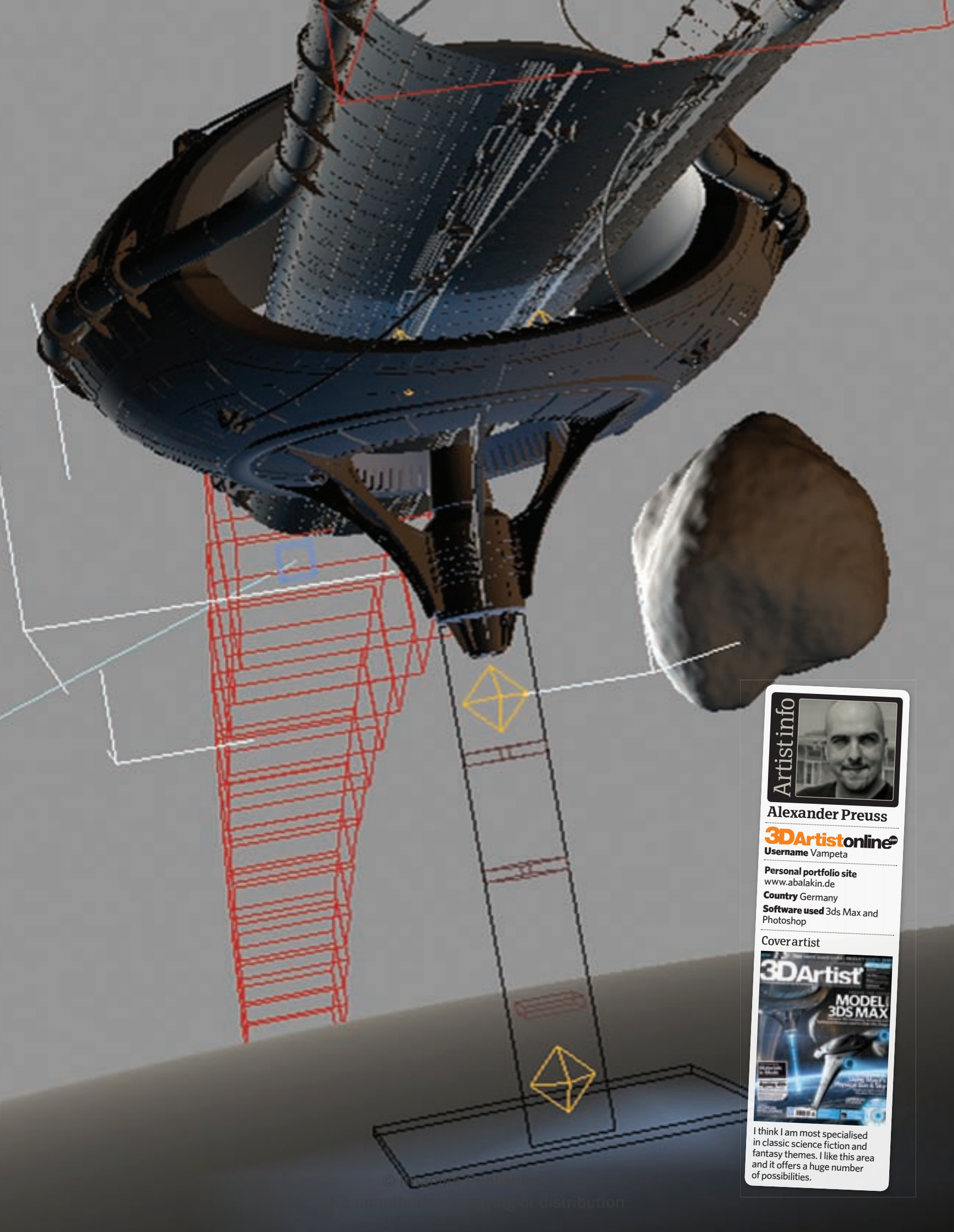
Bookazines
eBooks • Apps
www.imaginebookshop.co.uk

HIGH ST.
BUY IN STORE
High street

amazon
Kindle Store

ip
ImagineShop.co.uk

App Store



Artist info

Alexander Preuss

3DArtistonline.com

Username Vampeta

Personal portfolio site
www.abalakin.de

Country Germany

Software used 3ds Max and Photoshop

Cover artist

I think I am most specialised in classic science fiction and fantasy themes. I like this area and it offers a huge number of possibilities.

© 3DArtist.com
No unauthorised copying or distribution

Welcome

to the magazine and 116 pages of 3D goodness

Every issue you can count on...

1. **116 pages of creative inspiration**
2. Behind-the-scenes guides to images and artwork
3. **A CD packed full of creative goodness**
4. Interviews with inspirational artists
5. **Tips for studying 3D or getting work in the industry**
6. The chance to see your art in the mag!

This issue sees the start of something we've been planning from the very start – the first tutorial where the artist has been commissioned to produce the artwork from scratch. Lance has been busy getting reference photos and research material for the Shamrock gas station diner that sits on Route 66 in America. The actual building has been restored to how it looked in the Fifties, and the article will lead you through the stages in constructing, texturing and lighting it. Plus, there's lots more tutorial files on the disc this issue as well as the full version of modelling/rendering package Shade 8.5 for the Mac and PC.

Duncan Evans,
Editor

This issue's team of expert artists...

Mark Bremmer

AI characters are taking over the world. The film world that is, as Mark risks life and limb to get the story out into the open

Andre McGrail

Just what do those traditional enemies the Alien and the Predator do when waiting to shoot a scene? Play pool!

Thaddeus Maharaj

It's a crusty old elf with a bow. Check out the detail and follow the tutorial on how to make this striking figure

Lance Hitchings

Lance runs a design studio stateside, and is also the chap manning the Q&A help desk for your 3D problems

Alexander Preuss

In the future, will everything be soft and fluffy? No, of course not, so check out this galactic conflict tutorial

Lee Davies

Lee is employed as a character modeller for a Dublin-based company. He's here to answer your character questions

April Madden

April is deputy editor on **Corel Painter Magazine** and a graphic artist. We gave her a pile of books to review

Rosie Tanner

Investigating the courses that matter at a university near you, Rosie is our very own blonde-haired Donald Macintyre

Christof Stanits

Christof and the Lemonaut crew came up with this concept art – a blind chicken! Get some eggcellent action yourself

Sarah Slee

If you need to know what's going down on the mean streets of 3D, check out pixie-like Sarah's community pages

John Hayes

John works as a character artist for Sega. He designs models over breakfast and is our go-to Q&A man

Debbi Allen

Rummaging around in the dustbin of the 3D world in search of industry news, it's guest editor in chief, Debbi Allen

Sign up, share your art and chat to other artists at www.3dartistonline.com

3DArtist

Imagine Publishing Ltd
Richmond House, 33 Richmond Hill
Bournemouth, Dorset, BH2 6EZ
☎ +44 (0) 1202 586200
Web: www.imagine-publishing.co.uk
www.3dartistonline.com

© Imagine Publishing Ltd 2009

ISSN 1759-9636

IMAGINE PUBLISHING

recycle

© Imagine Publishing Ltd
No unauthorised copying or distribution

Not just for dummies

Mac for Beginners
Android for Beginners
All you need to get started with your Android device
All the essential apps
Setting up your device
Learn about Gmail & Maps
Full guide to Android Market
iPad for Beginners

for Beginners™

A clear, comprehensive series for people who want to start learning about iPhone, iPad, Mac, Android and Photoshop

Also in this series

Bookazines
eBooks • Apps
www.imaginebookshop.co.uk

High street | Kindle Store | ImagineShop.co.uk | App Store

Contents

03

Discover how these images were created...

Create a spectacular space battle

68

"The most important part of creating an artwork is the idea behind it"

Six-page step-by-step walkthrough guide
Plus: Scene file and textures on the disc

© Imagine Publishing Ltd
No unauthorised copying or distribution

"Problems specific to this job were trying to re-create the most recognised creatures in the movie industry"

Andre McGrail gives a unique look into an enemy relationship. **Page 44**

DAZ 3D Girl 4: Free base model

Get your hands on the latest Victoria 4.2 Unimesh model from DAZ 3D

Plus software, models and resources **worth $300**

Turn to page 110 for the complete disc contents

On the Disc

Free: Shade 8.5

Full program! Turn to page 110 for details

The Studio

Professional 3D advice, techniques and tutorials

44 Behind the scenes: *Alien vs Predator Pool* tutorial
Six-page guide to an awesome take on the traditional enemies

50 I made this: Jose Martin, *Fruity flash*
Not for the faint-hearted, it's a banana on the rampage

52 Step by step: The Old Elven Archer
Thaddeus Maharaj explains how to create a Tolkien-esque image

56 I made this: Adrian Guerra, *Space Alien*
It's an alien on a flying spacecraft with a funky background!

58 Main tutorial: Route 66 gas station diner
Part one of our Fifties-style diner tutorial. Create it from scratch

68 Behind the scenes: The Broken Armistice
Check out this six-page guide to galactic conflict in the future

74 I made this: Donat Somogyi, *Reforms in my country*
Hungarian artist with a political message on the price of reform

76 Step by step: Blind Chicken charity campaign
Superb piece of cartoon-style 3D from the Lemonaut studio

Continued overleaf

There's even more inside...

Turn the page to discover the interviews, reviews, industry advice and more that we've packed into this issue...

© Imagine Publishing Ltd
No unauthorised copying or distribution

INSIDE ISSUE THREE

Contents 03

Inspiration • Interviews • Reviews and more

11 The Gallery
Saliva-inducing images from around the 3D world

22 Community
News, contests, artwork and letters from the 3D community

28 Interview: Stephan Martiniere
Creative director of id Software, concept artist and graphics guru

34 Feature: Rise of the robots
How AI characters are starting to take over the film world

40 Interview: Ocular Production
Enter the intricate world of interior design, Southeast Asia style

44 The Studio
A world of tutorials and insights into simply fabulous images

80 Questions and answers
Got questions about 3D software and practices? Pull up a seat

84 Review: LightWave
Can fan-favourite LightWave really stand up against the big boys?

86 Review: BonZai 3D
There's a new modelling package on the block. We check it out

88 Review: Xara3D 6
Possibly the fastest way to create 3D text and logos ever

89 Review: DAZ 3D Girl 4
There's a new girl on the Unimesh block for Poser and Studio fans

89 Review: Armari Magnetar NDX
The workstation for when you need extra rendering grunt power

90 Reviews: Books
A selection of the best 3D books

108 Subscribe today!
You don't want to miss an issue and it will save you lots of cash

110 On the disc
There's good stuff on there – Shade 8.5 on PC and Mac!

See your artwork here...
Create a gallery today at 3DArtist online.com
Share your art, comment on other artists' images

"Ocular Production provides high-end photorealistic architectural and interior visualisation services"

workspace 3D

Inside guide to industry news, studios, expert opinion & education

94 News
Industry events, awards, courses and news you need to read

96 Studio access: Lionhead Studios
The magicians behind *Fable II* and *Knothole Island* reveal all

100 Interview: Daren Horley
What you need to know to get a job in texture and matte painting

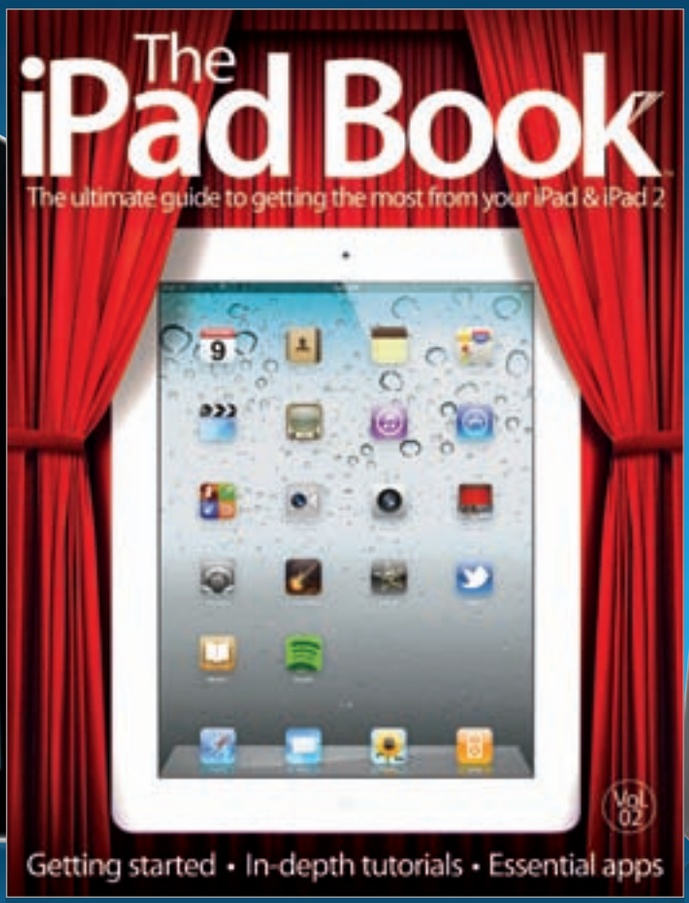
102 College course: Staffordshire University
We check out the Digital Film and 3D Animation course

106 Worldwide student gallery
Course students show their work

© Imagine Publishing Ltd
No unauthorised copying or distribution

Learn in style

iPad


The
iPad Book
The ultimate guide to getting the most from your iPad & iPad 2
Getting started • In-depth tutorials • Essential apps
Vol 02

Printed full colour large format book

Kindle

The Book™ Series

Discover more with the Book series' expert, accessible tutorials for iPad, iPhone, Mac, Android, Photoshop, Windows and more

Also in this series

Bookazines
eBooks • Apps
www.imaginebookshop.co.uk

Now available on

HIGH ST. BUY IN STORE
High street

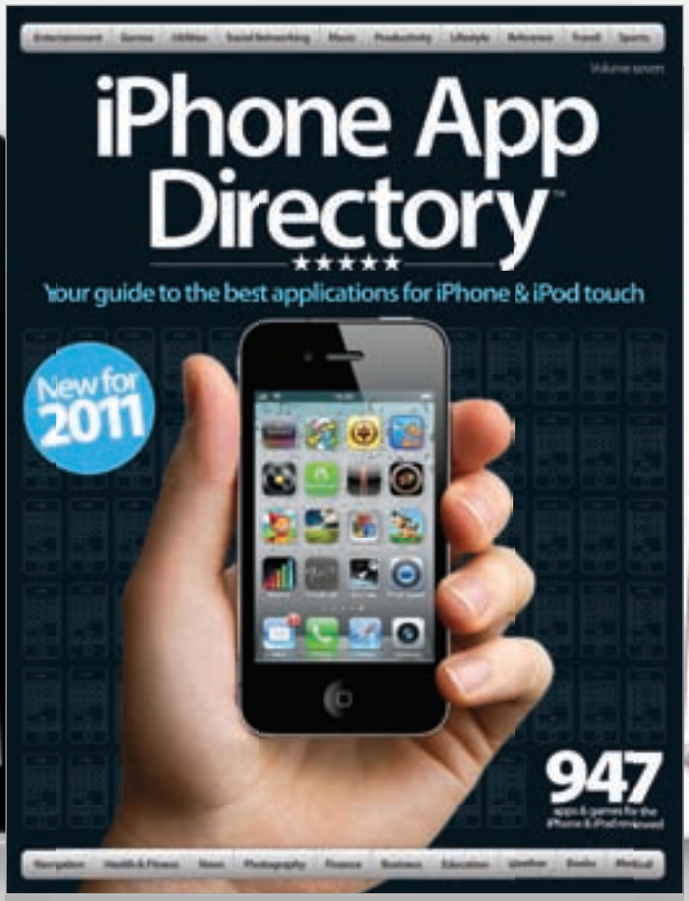
amazon
Kindle Store

ip
ImagineShop.co.uk

App Store

It's a jungle out there. Swing through it

iPad



Printed full colour large format book

Kindle

Directory™

★★★★★

The definitive review listings for iPad, iPhone and Android apps

Also in this series

Bookazines
eBooks • Apps
www.imaginebookshop.co.uk

HIGH ST. BUY IN STORE — High street

amazon — Kindle Store

ip — ImagineShop.co.uk

App Store

WELCOME TO THE GALLERY

11 pages of the greatest artwork from the 3D community

Images we love!

Artist info

Eugene Fokin

3DArtistonline.com

Username eof

Personal portfolio site http://eof.cgsociety.org

Country Russia

Software used Softimage XSI, ZBrush

"This is a portrait of a girl executioner. She's sad because of her job. I'm trying to evoke a sense of human emotion in her expression. I was inspired by the MagnaCarta games by Korean company, Softmax"

Eugene Fokin *Girl with Axe 2*, 2008

Featured artists

Eugene Fokin

It's all about the expression and not forgetting the cloth fabric

Rui Shen

Astonishing detail and colour plus a great background story

Julio Rodriguez

Look at the colours, admire the sword and feel the rage!

Yurtseven Soner

Charming and very colourful, cartoon style image

Adi Irawanto

Complimentary colours, great fabrics and textures

Pascquale Giacobeli

Check out those watery red eyes! Superb, striking image

Li Yidong

Another look at a less than rosy post-apocalyptic future

Hugo Silva

It's a warm and sunny afternoon in a sleepy Portugese village

Piotr Fox Wysoki

Great costume, fierce expression and nice hair for this angry Elf

Get your artwork featured in these pages

Simply send it to the 3D Artist Gallery. Here's how...

Enter online

3DArtistonline.com

Hang your art in our online gallery and get selected for the magazine

1. Register with us

Check out the website below and click on Register. Choose a username and password and you're ready to go.

www.3dartistonline.com

2. Upload your images

Once registered, you can upload images to your gallery – there's no limits on numbers but check the size criteria.

3. Tell us about them!

Have an image you feel passionate about? Drop editorial an email at **duncan.evans@imagine-publishing.co.uk**

Email or post

You'll be missing out on a thriving 3D community, but if you'd rather submit your work by email or post, here's how. Make sure your image is at least 3,000 pixels high, save it as a maximum quality JPEG or zip it up as a TIFF and email it to the address below. Please include your contact details! If you've created a Pixar-beating animation and want to see that featured on the cover CD, then save it onto a CD and post it to us. You can also send your images on CD. The addresses are:

duncan.evans@imagine-publishing.co.uk

The Gallery, 3D Artist, Imagine Publishing, Richmond House, 33 Richmond Hill, Bournemouth, Dorset, BH2 6EZ

Comment on more great 3D art...

Head straight over to **www.3dartistonline.com**, register and you can leave comments for other artists. Some of the people featured here already have their galleries, so get online and join our club!

Create your gallery today: www.3dartistonline.com

© Imagine Publishing Ltd
No unauthorised copying or distribution

“This is my new work which originated in an old Chinese story, *Farewell My Concubine*. The man is the king of XiChu and he has just lost a battle. The woman's name is Yuji and in order not to be used against her husband she decides to kill herself. I used the Beijing opera form to illustrate this story.”

Rui Shen *YuJi*, 2009

The team Loves

“Fantastic detail with amazing clarity, beautiful colours and clothing, and a sad story to tell as well”

Ross Head of Design

© Imagine Publishing Ltd
No unauthorised copying or distribution

Artist info

Rui Shen

3DArtistonline.com

Username Shenrui

Personal portfolio site http://shenrui.cgsociety.org/gallery/

Country China

Software used 3ds Max, Bodypaint, mental ray, Photoshop, ZBrush

Work in progress...

© Imagine Publishing Ltd
No unauthorised copying or distribution

Artist info

Julio César Espada Rodriguez

3DArtistonline.com Username Jhotun

Personal portfolio site www.jhotun.com

Country Spain

Software used 3ds Max, ZBrush, Photoshop

Work in progress...

"The Soulforged was created mainly in 3ds Max, but I used ZBrush and Photoshop. I wanted to create a cool character with a strong feeling of power and rage. I had a lot of inspiration from a variety of great artists"

Julio César Espada Rodriguez *THE SOULFORGED*, 2007

The team Loves

"Great colours, dynamic pose, and a real sense of action and menace from this scary figure"

Lora Group Art Editor

© Imagine Publishing Ltd
No unauthorised copying or distribution

Artist info

Yurtseven Soner

3DArtistonline.com
Username ashiataka

Personal portfolio site
www.krillstudios.com
Country Turkey
Software used Maya, mental ray, Photoshop

Work in progress...

The team Loves

"Charming characters and an interesting premise for the artwork. The colours are also very cheerful and the whole image is entertaining"

Jo Editor in Chief

"This was my entry for the CGSociety Challenge, Strange Behaviour. My wife and I composed a story about a lonely fairy trying to find friends in an ancient 'knick-knack' store, and he used his ability to create friends in the store. But by mistake he brought a bee to life – the scariest of all creatures for the fairy!"

Yurtseven Soner *Priceless Friends*, 2008

© Imagine Publishing Ltd
No unauthorised copying or distribution

"Her name is Kirana. She is the lord of battle from Java. This is the illustration of Kirana at the front line of the border. I was inspired by the story, *The Lord of The Rings*. In this character I put Javanese classic culture with the common Batik pattern in her cloth"

Adi Irawanto *Kirana*, 2008

The team Loves

"Lovely colour palette with complementary shades throughout and brilliant fabric modelling too"

Jo Editor in Chief

Artist info

Adi Irawanto

Personal portfolio site idonk.deviantart.com

Country Indonesia

Software used 3ds Max, Maya, mental ray, Photoshop

Work in progress...

© Imagine Publishing Ltd
No unauthorised copying or distribution

“Karma Geisha is a mix between Oriental and Occidental cultures. I created the base mesh in 3ds Max then developed it in ZBrush before exporting back to Max to render”

Pasquale Giacobelli *Karma Geisha*, 2009

The team Loves

“There's a nice sense of Eastern style and mystery in this – why does she have red eyes? The lighting in the eyes is also nicely done”

Duncan Editor

Artist info

Pasquale Giacobelli

3DArtistonline.com

Username karma3D

Personal portfolio site http://karma3d.cgsociety.org

Country Italy

Software used 3ds Max, ZBrush, Vray, Photoshop

Work in progress...

© Imagine Publishing Ltd
No unauthorised copying or distribution

> My original intention in creating this work was to cooperate with friends on a short series about *Metalslug* (a famous multiplatform video game). At that time a lot of work was done to prepare for it, but it had to be laid aside because of other urgent business. Lately I've had more free time, so I was finally able to complete this static-frame work

Li Yidong *Relic*, 2007

Artist info

Li Yidong

Personal portfolio site http://student.vfs.com/~3d68max/

Country China

Software used Maya, Photoshop, AfterEffects

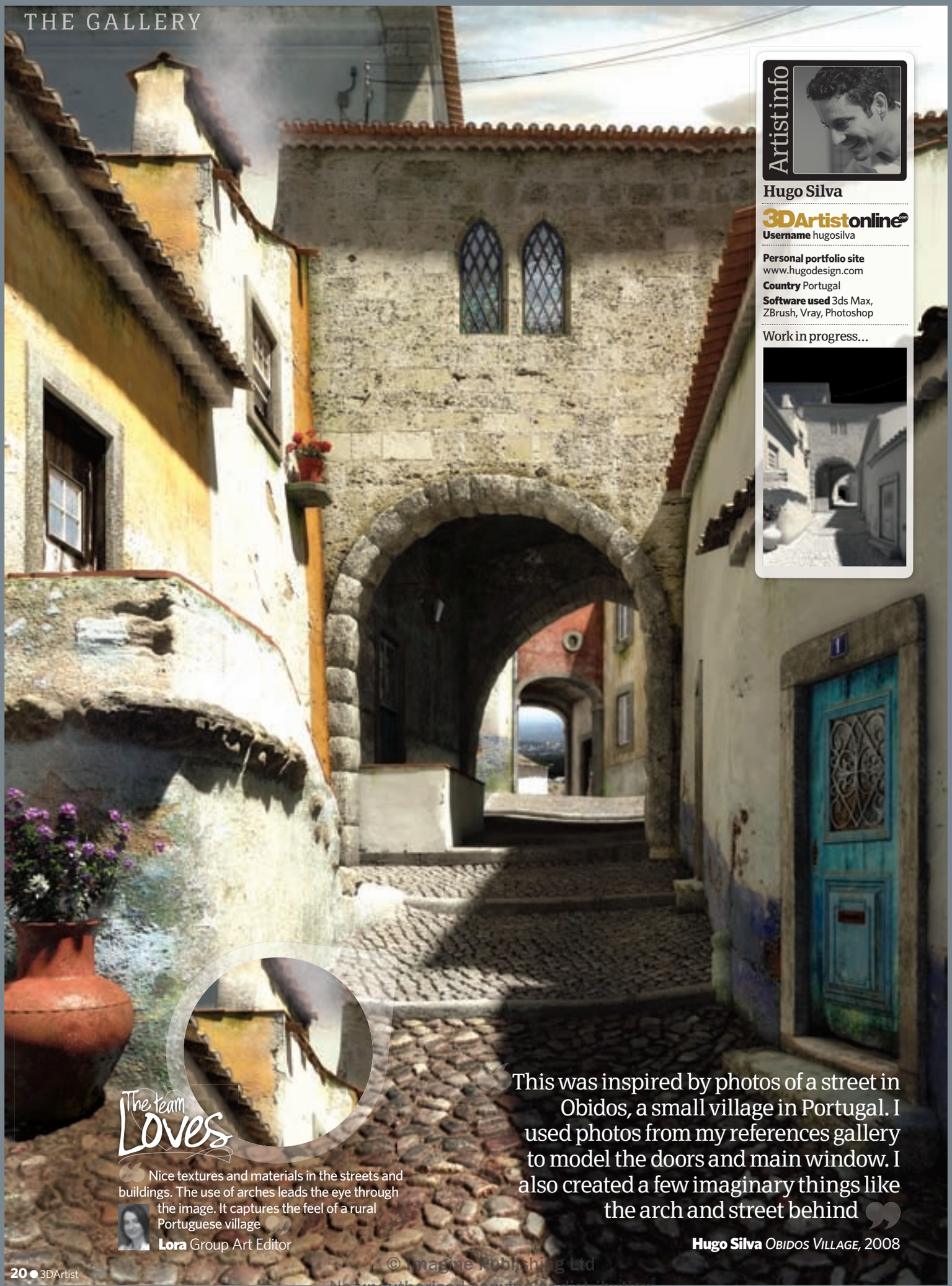
© Imagine Publishing Ltd
No unauthorised copying or distribution

The team Loves

"Just feel the rusty materials and the shattered glass. Super post-apocalyptic scene with great modelling and atmosphere"

Ross Head of Design

© Imagine Publishing Ltd
No unauthorised copying or distribution



Artist info

Hugo Silva

3DArtistonline.com
Username hugosilva

Personal portfolio site
www.hugodesign.com
Country Portugal
Software used 3ds Max, ZBrush, Vray, Photoshop

Work in progress...

The team Loves

Nice textures and materials in the streets and buildings. The use of arches leads the eye through the image. It captures the feel of a rural Portuguese village

Lora Group Art Editor

This was inspired by photos of a street in Obidos, a small village in Portugal. I used photos from my references gallery to model the doors and main window. I also created a few imaginary things like the arch and street behind

Hugo Silva *Obidos Village*, 2008

© Imagine Publishing Ltd
No unauthorised copying or distribution

The team Loves

Nice fabrics and outfit – it blends superbly with the background, and the subject herself looks seriously ready to shoot someone with that bow and arrow. Bit of a different hair style you've got going there as well

Jo Editor in Chief

Artist info

Piotr Fox Wysocki

Personal portfolio site http://fox.cgsociety.org/gallery

Country Poland

Software used Maya, mental ray, Photoshop

Work in progress...

It was a challenge to do this game art cover because the character on the cover should be realistic and at the same time like the character from the game. I asked my friend Marc Camelbeke for help on the design, and hired my wife as well as helping me on modelling and UVs

Piotr Fox Wysocki
Elven Legacy game cover, 2008

© Imagine Publishing Ltd
No unauthorised copying or distribution

Ian Wharton and Edward Shires won last year's RTS undergraduate animation award with their entry called Solar. Check it out at www.solarthefilm.com

Student shortlisted for Royal Television Society award

Fairground attraction

Karolina Glusiec took six months to create over 5,000 drawings on the theme of a child lost in a fairground

BA (hons) Digital Animation exchange student Karolina Glusiec has received an RTS nomination for her work on a short film *Carousel Rodeo*. The Royal Television Society Student Television award is given to outstanding and innovative work; judges look for originality and audience appeal. It is the 14th awards ceremony, which will be held at the Barbican Centre in London.

The piece itself took six months to create and contains over 5,000 drawings. The striking black and white animation was inspired by the song *Karuzele Skutery Rodeo* (*Carousel Skooters Rodeo*). "I really wanted to show the emotion of the song and translate it into the language of film through animation," said Glusiec. "I wanted to show how a child feels when lost in a fairground." Karolina's work has already won the Best Animation and Audience Award at the Off Jak Goraco Independent film festival in Poland, and came second at the Animated Exeter festival this year in the 'Best of the West' category. She has studied at University College Falmouth for the past six months as part of the European Commission exchange programme. The course's leader, Andy Wyatt, was extremely pleased with Karolina's success so far, commenting: "To have students already winning such important awards in the first two years of the Digital Animation course is very exciting. It sends out a very strong signal to the industry that University College Falmouth is very quickly building a reputation as an international centre of excellence for animation."

> "To have students already winning such important awards in the first two years of the course is very exciting"
> **Andy Wyatt** Digital Animation course leader, University College Falmouth

3DArtist online.com

Discuss what you think of the latest 3D animated films and more with other 3D artists at **www.3dartistonline.com**

© Imagine Publishing Ltd
No unauthorised copying or distribution

3D web update

New sites and changes to your favourites – it's all here!

Trading your wares just got a little easier

Animeeple, a website offering artists the chance to buy and sell characters and animations, now features an updated interface and video tutorials. The new additions are expected to make it simpler to use the site's software to create such things as movies, GamerTags and animated profile pictures.

The portal itself has a wide array of free and paid-for items, and is perfect for those wanting to make some extra cash. Meanwhile, the benefits for customers include the chance to purchase royalty-free images, try them out before buying, and then choose from a range of file formats to export to. Visit **www.animeeple.com** for more info.

MakeHumans in under two minutes

The Alpha 1 release of MakeHuman is now available on www.makehuman.org. It is claimed that by using this software you can create a photo-realistic character in less than 120 seconds. The open-source project provides free software for artists to use to create 3D humanoid characters. This 'sneak peek' isn't a fully functioning release, as it doesn't allow for the figures to be posed, but it demonstrates what the full version will offer.

MakeHuman is available for Windows, Mac OS X and Linux operating systems. Artists and developers are being encouraged to offer their support for this project, so to get involved contact **info@makehuman.org**.

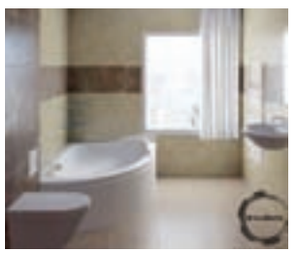
Masterpiece
A view with a room

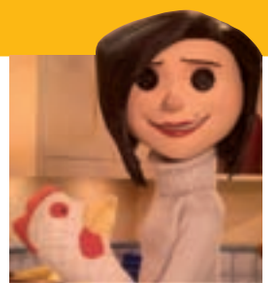
We take a look at an artist who enjoys capturing the qualities of vehicle design

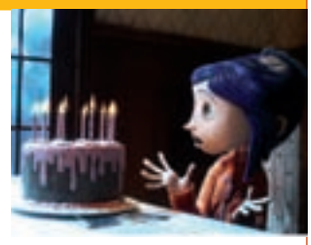
Alexandre Watanabe

Alexandre is a Brazilian freelancer who specialises in modelling and interior scenes. He first got interested in this area of art as a student, as Alexandre explains: "I always looked at scenes like this [Room MR] and thought 'One day I will make pictures like this.' I think this is the reason that motivated me to study."

Inspiration for Room MR was taken from an image produced by Ramon F. Zancanaro, who is a friend of Alexandre's. It was created using 3ds Max 9 and Mental Ray, with Photoshop used to add his logo. Alexandre has modelled everything in this image, plus all its objects are functional. It took around 10-12 hours to create, not including the rendering time. To see more of Alexandre's work, simply visit **www.evilwata.com.br**.







European union

FMX/09 event held in Stuttgart

The beginning of May saw Germany play host to FMX/09. Thousands of people turned up to the international conference, which took place between 5-8 May. Proceedings kicked off with 3D Stereo screenings of *Bolt* and *Glago's Guest*, and *Watchmen* and *Coraline* were also shown later on in the schedule. Visitors were treated to a range of workshops on tricky topics, plus guest talks from people such as John Scheele and Ron Frankel. In addition to that, representatives from companies such as Sony Pictures, Ubisoft and LucasArts were on hand at the recruitment desks. This enabled attendees to have a chat with them and also present their showreel to the potential employers.

The FMX event was first set up back in 1994 as a European meeting providing a great place to network with industry peers. The community-based conference focuses on animation and effects in games, films and TV.

Handpicked beauties

Take your brain to another dimension

The Third Dimension is a bi-weekly news article produced by DeviantArt community member and 3D artist Matt Mills. He trawls through the DeviantArt galleries to select what he believes to be the very best work on show. He'll choose an image based on originality, high quality and uniqueness. Each instalment offers a real treat for the eyes, provides a great source of publicity for the featured artists and, as he says, "Serves as a platform to promote 3D deviations that may have otherwise been lost in the sea of digital submissions."

Website of the month
3D Total
www.3dtotal.com

Design content and interviews

3D Total is a website that started out back in 1999. It offers a mix of 3D design content, ranging from freebies to interviews with industry insiders. There is a great sense of community within its bustling forum, while the site in general provides users with an easy-to-use service that is updated daily.

Artists can view the latest trailers, check out new 3D film or game stills and feel inspired by reading interviews with design veterans. 3D Total even displays job adverts, and there's also the option for users to submit their own news, wallpapers, gallery images or tutorials.

© Imagine Publishing Ltd
No unauthorised copying or distribution

Free 3D Resources

Free models online

Take advantage of high-quality models that cost nothing more than a few mouse clicks

Archibase

An architecture portal that offers daily updates of free 3D models and textures

Web: www.archibase.net

Archibase is a site offering artists a range of services. Not only does it provide masses of free textures and 3D models that range from cars to cows, it also features a gallery, job adverts and blog posts. Users can search for specialists in particular areas of 3D design by clicking on the Find Specialist tab.

Rocky 3D

Don't let the website's simple design put you off – there's a good range of 3D models here

Web: www.rocky3d.com

Rocky 3D is a site with a variety of free 3D models available to artists. Once you've registered your email address, you're granted access to a wealth of resources. Models are organised into categories, such as medical, weather and food, making them easy to search through and find what you're after.

Quality 3D Models

An eclectic mix of freebie 3D models available to all artists for use in personal and non-commercial work

Web: www.quality3dmodels.com

Quality 3D Models is a free exchange directory where its wide array of models are up for grabs. Artists can choose from the vast selection of royalty-free models, meshes, scenes and graphics to add to their work. A few tutorials are on offer to those who'd prefer to try to create their own models.

New VectorWorks tutorials available

The workbooks are said to offer VectorWorks users a different and effective method of learning

A selection of new VectorWorks tutorials covering a range of topics are now available to 3D artists. Jonathan Pickup has produced manuals for VectorWorks Architect, Essentials and Landmark, while Tamsin Slatter created one on Residential Garden design. They were written based on the 2009 version of VectorWorks, but can also be used successfully with previous versions of the software.

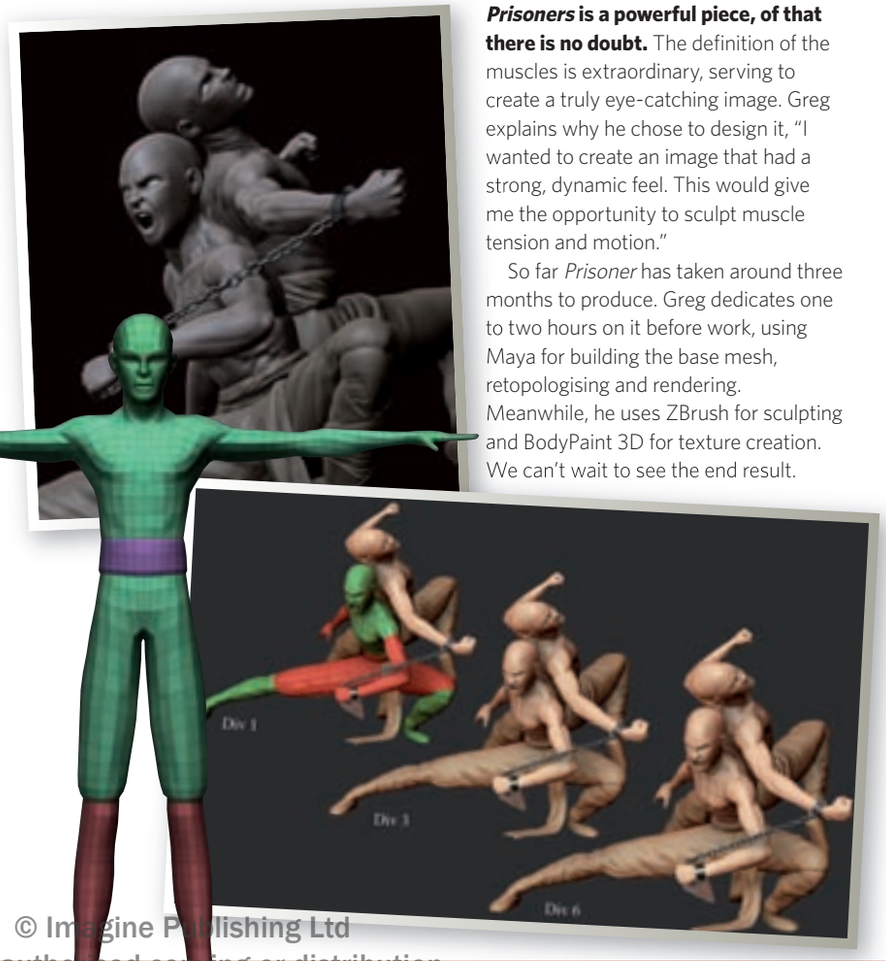
Users of VectorWorks will be delighted to discover a plethora of new workbooks with exercises and videos

Both authors wanted to create guides that were informative, yet entertaining, providing artists with a learning aid to follow at their own pace. Each hard-copy workbook comes with an accompanying CD containing various tutorial treats such as exercises and PDFs with embedded instruction videos. Check out **www.vectorworks-training.co.uk**.

work in progress

Take no prisoners

We chatted with Greg, a 3D modeller from Sydney, Australia, about how he created a still image with so much movement **Greg O'Connor** www.gregoconn.com



***Prisoners* is a powerful piece, of that there is no doubt.** The definition of the muscles is extraordinary, serving to create a truly eye-catching image. Greg explains why he chose to design it, "I wanted to create an image that had a strong, dynamic feel. This would give me the opportunity to sculpt muscle tension and motion."

So far *Prisoner* has taken around three months to produce. Greg dedicates one to two hours on it before work, using Maya for building the base mesh, retopologising and rendering. Meanwhile, he uses ZBrush for sculpting and BodyPaint 3D for texture creation. We can't wait to see the end result.

© Imagine Publishing Ltd
No unauthorised copying or distribution

Artist spotlight

Beauty in a new light

Heinrich Kimerling has managed to create an image that is stark in more ways than one

Heinrich Kimerling http://kimerling.sk

***American Beauty* is a striking yet subtle image from Heinrich Kimerling.** He has created something that mimics a well-known image, yet manages to ooze individuality. He says the biggest challenge was sculpting the body, but also placing the products around the model. The subtlety lies in the rubbish surrounding Kimerling's feature female – the colours hint at the American flag. Heinrich is currently employed as a modeller at Virtual Viewing Ltd. Previous work he's created includes adding CG installations to old photos as part of his coursework for a diploma. See more of Heinrich's work at **http://pavuk.cgsociety.org/gallery**.

Software shorts

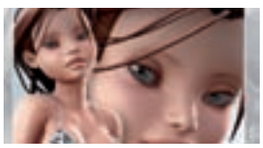
Get the lowdown on updates and launches

Houdini 10

Side Effects software has released Houdini 10. 3D artists can benefit from simulation times and the ability to produce simulations at a much bigger scale than would be possible on a single computer. It's available on Mac OS X, Windows and Linux. Check out **www.sideeffects.com** for more.

About a girl

The latest version of Daz 3D's figure Girl 4 is available. It offers artists more versatility with its improved joint rigging, increased texture map resolution and customisable body shaping. Another new release is the Betty Hair collection – now you can create your own perfect '50s pin-up girl.



Tools of the trade

SPACEPILOT PRO

Complete control at your fingertips

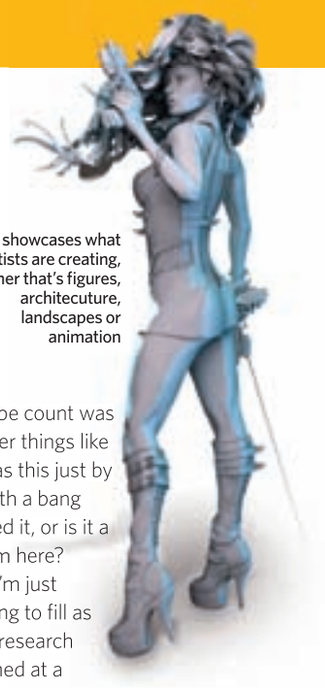
The new SpacePilot Pro from 3D Connexion is a thing of beauty. Its full-sized wrist rest gives it a distinct curve, while the dial puts your digits in the optimum position for long sessions spent working at your computer. Its tech specs include 21 programmable keys and the patented 'Six-degrees-of-freedom' sensor technology. However, perhaps the most notable feature on the SpacePilot Pro is its LCD Workflow Assistant. This full-colour screen displays emails, tasks and function key commands, giving you a wealth of control all in the palm of your hand. SpacePilot Pro retails for around £470. Visit **http://shop.3dconnexion.co.uk** for more.

This full-sized wrist rest puts your hand into a comfortable position, and its symmetrical design means it can be used by left or right-handed artists
The LCD Workflow Assistant displays information such as emails and function key commands
Function keys are conveniently located to make it easier and quicker to get the job done

3DArtist online.com
Create your gallery, browse the artwork, chat with experts and artists and get tips and techniques at
www.3dartistonline.com

© Imagine Publishing Ltd
No unauthorised copying or distribution

Have your say



3DA showcases what artists are creating, whether that's figures, architecuture, landscapes or animation

Write, email or use the website forums to get in touch about the magazine, your problems or triumphs

Send your letters to...

Email the team directly with your letter
3dartist@imagine-publishing.co.uk

Log in and leave your comments on the forum
www.3dartistonline.com/forum

POST TO:
The Editor, 3D Artist,
Imagine Publishing,
Richmond House,
33 Richmond Hill,
Bournemouth,
Dorset
BH2 6EZ, UK

e-zine version of 3DA?

I wanted to ask if there might be a possible e-zine version (downloadable pdf) of *3D Artist* in the future? Sure, it's not as nice as having a print version, but the advantages are that it's a fraction of the cost, you have more scope for more pages and longer tutorials and it is easily/instantly acceptable for people in remote countries at no extra cost.

Tom, forum post

There's a few issues about this, the first being that the economics don't work. If we charged a fraction of the cost, why buy the magazine? The PDF version wouldn't cover the quite high costs of producing a magazine. If we didn't print it, there wouldn't be as much advertising, there would be less money to pay contributors, so there would be fewer pages – not more. What we do at Imagine is bundled say a years worth of content up and format that into a bookazine project, but this is usually a premium cost product. The best bet is to take up one of the subscription offers where you can make a big saving on the cover price. You're guaranteed to get a copy, save money and help support the magazine.

Fantasy art?

I had a look through issue 1 and thought right away it had a fresh look to it (and the free version of C6 Pro of course). I wonder though if the content of issue 1 reflects the ongoing focus and target audience of the magazine? It had quite a strong fantasy art feel to it (the digital babe count was pretty high) at the expense maybe of other things like architecture, landscapes or whatever. Was this just by chance, or was it just to launch Issue 1 with a bang among the male 3D artists so they noticed it, or is it a reflection of the magazine's direction from here? This is nothing to do with prudishness – I'm just interested to know what niche you're trying to fill as you've probably done a fair bit of market research before launching the magazine. If it is aimed at a fantasy art kind of market it isn't one for me, but each to his own I guess.

Craftycurate, forum post

There's no niche that we're aiming at, it's simply a case of what people have created or are talking about at the time that the issue is being put together. In issue 2, which went on sale 29 April, there's a much bigger architectural visualisation content, with an arch viz company being interviewed, and the Industry Insider running his own arch viz studio. The content of the features will give each issue a slant, so if you get robots and girls in underwear in issue 1 it might make the issue feel orientated that way, even though it wasn't specifically constructed that way. Equally, with issue 2 you'll be feeling the love for buildings and by this issue it should feel film-orientated. The short answer is that we aim to spread the aim for all kinds of 3D goodness.

Set up your online gallery

REGISTER AT OUR WEBSITE, UPLOAD IMAGES, CONTRIBUTE TO THE FORUMS

www.3dartistonline.com

01 Register your details

First click on the Join Now box in the top-right corner. Fill in your personal details – the ones in blue are mandatory. Think of a good member name and a password. When you're happy, click Create User. You'll be sent an email with a link. Click this and enter your password to activate your account.

02 Log in

Your account is now created. Every time you visit www.3dartistonline.com, enter your user name and password to log in. If your PC or Mac allows cookies you can store the password and log on automatically. Click the top-left link to access your account. Now click on Add New Image to add some images.

03 Upload pics

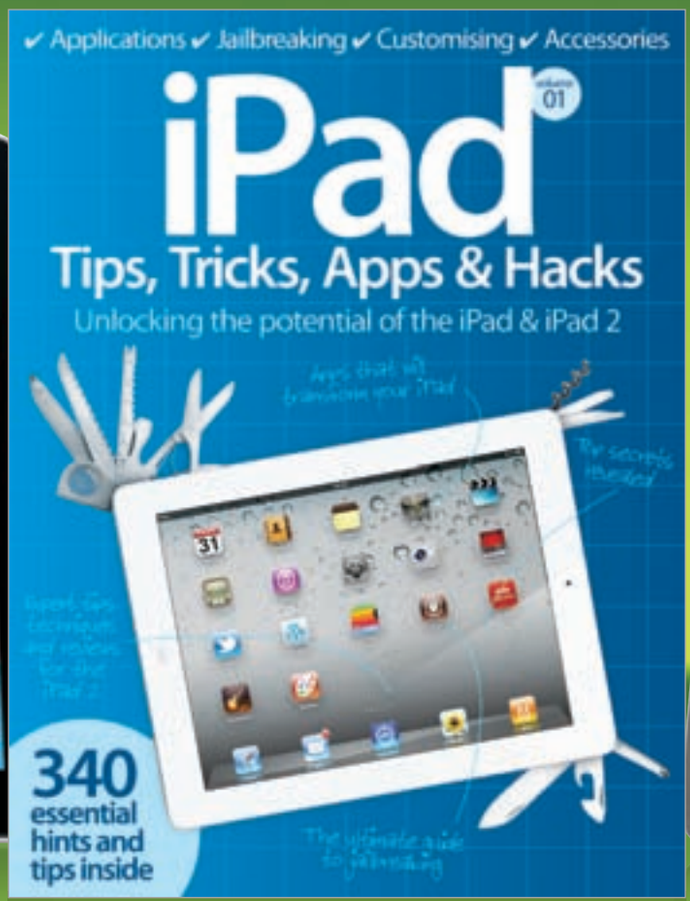
Fill in the title of your pic and describe how you made it and what it was for. Pick a category and navigate to the image for the upload. It can be 1280 x 1024 max, and must be a GIF, JPG or PNG. Hit Submit Image. Once we've approved it, it'll be added to the Gallery and your portfolio.

© Imagine Publishing Ltd
No unauthorised copying or distribution

We don't keep secrets

iPhone
Tips, Tricks, Apps & Hacks
The insider's guide to unlocking the potential of the iPhone
340
essential hints and tips inside

iPad



Printed full colour large format book

Kindle

Tips & Tricks™

Learn the truth about iPhone, iPad, Android, Photoshop and more with the Tips & Tricks series' expert advice and tutorials

Also in this series

Bookazines
eBooks • Apps
www.imaginebookshop.co.uk

Now available on

HIGH ST. BUY IN STORE — High street
amazon — Kindle Store
ip — ImagineShop.co.uk
App Store

A One of Stephan Martiniere's specialities is conceptualising city environments

© Imagine Publishing Ltd
No unauthorised copying or distribution

Bringing concepts to life

Multi-talented concept artist Stephan Martiniere began in children's animation. April Madden caught up with him to find out more

> "The photo elements become blocks of ideas and colours. I never quite know what they will create. It's a very instinctive, organic process. I always end up being surprised"
>
> **Stephan Martiniere** Art Director, id Software, chatting about his work

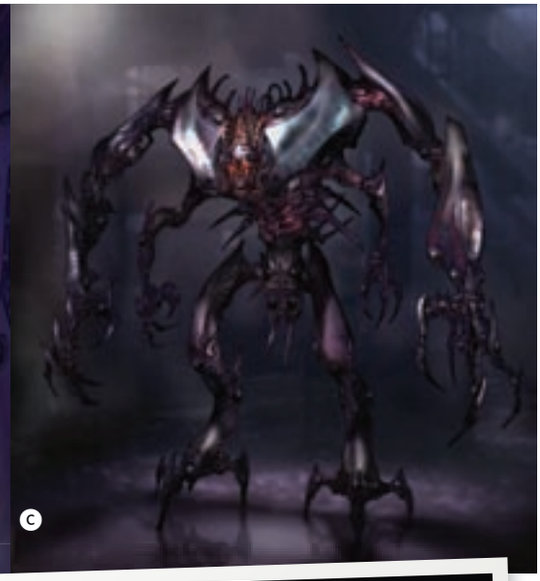
Job title Art Director
Company id Software, USA
Personal portfolio www.martiniere.com
Location Mesquite, Texas, USA
Software used Adobe Photoshop, ZBrush, Corel Painter, MudBox, Maya, 3ds Max
Expertise Art direction
Project credits Rage, Knowing, Stranglehold, Star Wars Episodes II and III, I Robot, Red Planet, Myst 5, Dragonheart 2, The Fifth Element, Titan A.E, The Real Ghostbusters

Stephan Martiniere has the kind of CV most digital designers and artists can only dream of. After starting his industry career on iconic, traditionally produced Eighties cartoons such as *Inspector Gadget* and *The Real Ghostbusters,* he moved into films and digital art and animation, racking up credits on *Star Wars* among many others. His latest film project is supernatural action thriller *Knowing*, on which he worked as a concept artist. He's created book covers for sci-fi cult classics such as Neal Stephenson's *Snow Crash* and more recently *The Empire and The Rose* series by Kay Kenyon, and even designed theme park rides including Star Trek: The Experience. His videogame credits include *Stranglehold* and the *Myst* series, one of the biggest selling franchises in videogame history. Currently working as art director at world-renowned id Software, famous for its groundbreaking and market-leading games *Doom* and *Quake*, Stephan Martiniere's latest projects include multi-format, post-apocalyptic shooter *Rage*.

3DArtist: *Tell us a bit about your workflow, from concept to final piece*
Stephan Martiniere: It starts with a sketch on paper or the Cintiq. The complexity of the sketch varies a lot – if it's for a film or game I put in a lot more information as it's all about shapes and ideas. If it's for a book cover I put in very little detail; I let the painting process dictate the outcome. I like both approaches. I tend to come up with ideas in two different ways. When it's a drawing, the ideas come from shapes I know, from forms that appeal to me. When it's a Photoshop painting, the ideas come from layering various references, applying filters and seeing what the result is. I always have an idea of what I'm looking for, but that process creates exciting results. When I do a book cover or illustration, the

© Imagine Publishing Ltd
No unauthorised copying or distribution

> “Any artistic 3D tool can make you a better and/or more efficient artist”



C

D

B Martiniere’s skills also include character and creature concept design

© Imagine Publishing Ltd
No unauthorised copying or distribution

E

F

> I was fortunate enough to be there at the beginning of the digital shift

most important thing is to find the foundation for the painting. I start piling various photos under the line drawing. They might have absolutely no connection with the subject – what I'm looking for is a feeling, a mood. I'll vary the opacity between images, resize and flip them, until I see something. When that colour/mood connection happens it becomes a foundation, like an underpainting. Using the colour palette of that foundation, I start roughly blocking in colour, light and shadow elements. I then start painting in details using regular or custom brushes, and photo elements that I blend into the painting. It becomes a modelling process. The photo elements become blocks of ideas and colours. I never quite know what they will create. It's a very instinctive, organic process. I always end up being surprised.

3DA: *How has digital design and painting changed your workflow?*

SM: Digital has reshaped my career. For many years, as a concept artist in the animation industry I was given the task of coming up with ideas, mostly in the form of sketches, black and white drawings or greyscale rendering – but very seldom was I allowed to finish them as paintings. I never had the chance to explore painting, even less find style. I was fortunate enough to be there at the beginning of the digital shift. Since I didn't have a particular technique or style, moving into digital was easy and painless. I became very comfortable with Photoshop fairly quickly. Painting digitally allowed me to explore ideas and techniques I don't think would have been possible traditionally. Working with layers made the process even more enjoyable, and you certainly don't have to worry about losing your work and can redo it from scratch if you make a mistake. In many ways it made me a faster and more efficient artist.

3DA: *You worked at Cyan Worlds on some of the* Myst *series. What's it like to work on games in which the art style is iconic?*

SM: *Myst* and *URU* are about mystery and a journey to discover and understand the long-gone D'ni civilization. Every concept, creature, environment or machine had to be thought through all the way to its tiniest detail and texture. Everything in this universe was a visual clue to help the player get a better understanding of that civilisation. I was already a fan of the game before being hired as a visual design director. When I met the creator, Rand Miller, we connected immediately. It was easy for me to embrace the Myst universe and expand from it. Because of the scope of this world, the challenge as a concept artist was huge; but refining, creating and expanding such a world was extremely rewarding. Every new world the player enters reveals a different side of the D'ni civilisation; sometimes dark and frightening, sometimes wonderful and visionary. It was one of the most enjoyable experiences I've had.

3DA: *You also worked for Midway Games. Tell us about your favourite projects there.*

C The artist and designer works with a variety of programs including Photoshop and ZBrush

D Concept art for the alien spaceships in Nicolas Cage's apocalyptic thriller, Knowing

E The cover of the novel Multireal by David Louis Edelman; one of Martiniere's favourites among his book cover illustrations

F Another of his favourite pieces is the cover illustration to Autumn War, written by Daniel Abraham

© Imagine Publishing Ltd
No unauthorised copying or distribution

Key Project

Rage

Project type Game
Year released In development

Rage is an FPS/racing hybrid videogame currently in development by id Software, where Martiniere works as art director. The game is set in a post-apocalyptic future.

> "I find that getting feedback is constructive. You have to let go of some ego in the process, but the concept always ends up stronger"

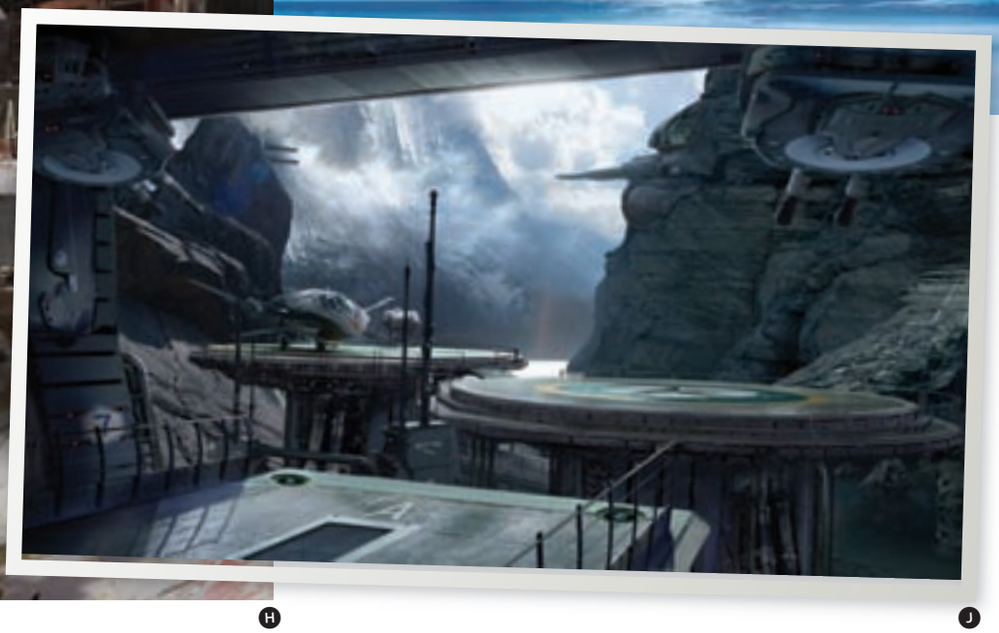
SM: I was hired as visual design director for [Xbox 360 game] *Stranglehold*. I was responsible for creating the artistic and cinematic vision for the game and carrying that vision through the production pipeline. I was also responsible for bringing a cinematic and narrative feel to the project by doing storyboards and collaborating with the cinematic team. It's like having the role of both production designer and director. That game was set in today's world, in Chicago and Hong Kong, and designing it was more about story, mood and how to convey emotion visually rather than coming up with cool, original sci-fi or fantasy concepts. It was a very exciting and challenging role.

3DA: *What are the unique features of designing for a videogame as opposed to other media?*
SM: When you design for a videogame you have to be aware of different visual,

G This cave location, conceptualised by Martiniere, was an element of the plot in Knowing that didn't make it into the film

H He says it's important that concept art provides the feeling of a movie or film to help the rest of the art team capture it

© Imagine Publishing Ltd
No unauthorised copying or distribution



H

I

I In his time at Midway Games Stephan Martiniere worked on the iconic Mortal Kombat franchise

J Martiniere's work on the Mortal Kombat series included locations such as cityscapes and military bases

narrative and technical aspects. You have to know the context in which your concepts are being used and the importance your design will have in the story and gameplay. It's important to know what visual impact your design will have, and what that design will communicate to the player in terms of emotion. You've also got to take into account the game technology and the limitation it might impose on your design. All these aspects will dictate how you approach a concept or painting and how you execute it.

3DA: *You currently work at id Software as art director. Tell us what your job involves*
SM: There are meetings throughout the week – some with my art team to review tasks and discuss issues, some with the different leads including animation and design. In between theses meetings I and the lead concept artist create concepts and paintings. Twice a week I do a walkaround to review the art team's work in progress, but I also make a point of always being available to anyone whenever there's a need. The challenging part is to keep up with creating concepts while juggling meetings all week, but the team is small and that makes the process a lot easier and more enjoyable.

3DA: *Right now you're working on id's new videogame,* Rage. *Tell us how you go about creating concepts for its post-apocalyptic environment*
SM: A lot of the visual style was established before I jumped on board as an art director. This could be frustrating, but somehow I always find it exciting to expand a vision when that vision is cool and creative to start with. There are still a lot of unexplored areas in the game that need to be defined, and that makes the process even more enjoyable. One challenge was familiarising myself with all the art that had been done, and getting a good idea of what could be created from it. It's very similar to how I did concepts for *Star Wars*; there is a visual universe in place but there is also room for expansion. Post-apocalyptic environments are a common trend in games these days, so another challenge is to be original and create exciting concepts that are unique to *Rage*. I certainly have my vision, but one way to make a concept really unique or strong is to involve the team as much as possible. Different people have different ideas – someone else will see something you haven't necessarily thought of. I find that getting feedback is very constructive. You have to let go of some ego in the process, but the concept always ends up stronger.

3DA: *Tell us about some of your other work, like the concept designs for theme parks*
SM: I made my first foray into the industry working for Landmark Entertainment in LA. I was doing concepts for two parks in Japan; this gave me the opportunity to work there a second time. Doing concepts for theme parks is unique; you get to see what you create in real life, and sometime it even moves! Since Landmark I've done concepts on projects for companies such as Universal, Paramount and Disney. I recently worked on a fabulous project for a park in Dubai. The scope was mind-boggling. I can't divulge much, but it was an architect's dream come true.

3DA: *What's your advice for 2D artists who want to move into 3D concepts and designs?*
SM: For an experienced 2D artist I'd say go for it! Any artistic 3D tool can make you a better and/or more efficient artist. I started with Bryce, and it let me quickly set up complicated perspectives. SketchUp is also useful. There's a big community sharing assets on the web; all these models can be useful for architectural pre-visualisation or you can create originals. On top of the high-end 3D software, you can turn your character concepts into sculpture with software like ZBrush, Mudbox and 3D-Coat. Even GroBoto opens up really cool conceptual possibilities.

© Imagine Publishing Ltd
No unauthorised copying or distribution

Mark Bremmer discovers how CGI characters in films have become indistinguishable from real life

Rise of the Machines

"With the release of *Benjamin Button,* CGI has fully transformed from special effects into an integral storytelling tool by making digital characters come richly and believably to life. And it's only the beginning at the new and exciting level of realism. But it's not particularly fast, easy or cheap"

The Holy Grail of CGI has been digital human characters worthy of close-ups. We've come to visually expect the unexpected, craved it in fact, seeking the best 'wow' moments from movies like *Pirates of the Caribbean, Terminator, Lord of the Rings* (*LOTR*) and others. But these movies have been about the unreal. Creatures, dinosaurs and mechs aren't visually constrained by personal experience. However, humans are because we are so familiar with how people move, particularly people's faces. While Gollum had his fair share of close-ups in *LOTR*, he was a fictional character that allowed for suspended disbelief of human reality.

However, the integration of CGI characters, whether mechanical or organic, requires a level of technological comprehension and planning that can make traditional filmmakers shudder.

How CG characters arrived

Enter Industrial Light and Magic (ILM). In its quest for better, faster and cooler film graphics, ILM has long been the genesis of many technologies and entities that have become ubiquitous in the digital entertainment arena, including Photoshop and Pixar. The leading, bleeding edge of innovation is never a comfortable place to be – exciting, but not comfortable, especially financially. Pixar, a division of Lucasfilm, was really about a new machine that allowed compositing of digital images with film.

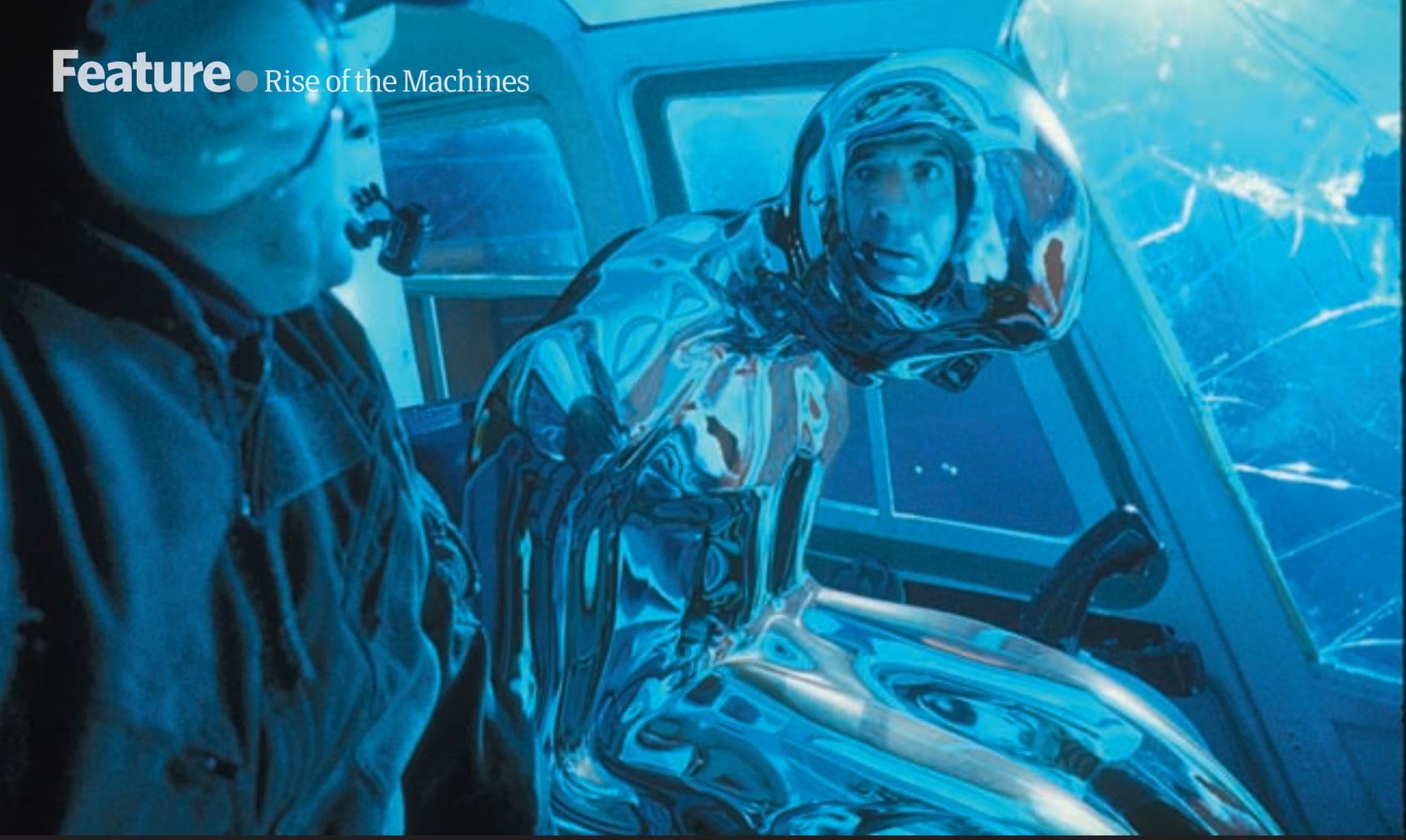
In the name of good business, other industries were courted as customers for the Pixar machine, but its capabilities were first and foremost created for special effects in film. While

» Transformers
Courtesy Paramount Pictures © 2009 DW Studios L.L.C. and Paramount Pictures Corporation. All rights reserved. HASBRO, TRANSFORMERS and all related characters are trademarks of Hasbro © 2009 Hasbro. All rights reserved

» Young Sherlock Holmes
The first full CG character had a screen time of ten seconds © 1985 Paramount Pictures. All rights reserved

© ImagineFX Publishing Ltd
No unauthorised copying or distribution

© Imagine Publishing Ltd
No unauthorised copying or distribution



» *Terminator*
Terminator 2: Judgement Day revolutionised the concept of using CGI as a dominant theme within films
© TriStar Pictures. All rights reserved

computer wireframes had been used in various computer-esque displays in movies prior to 1985, *Young Sherlock Holmes* was the first introduction of a photorealistic character into a live-action sequence. That is, photorealistic for a drug-induced dream sequence where a stained-glass knight comes to life and pursues a victim. Ten seconds of computer graphic heroics in live-action filmmaking.

» *The Abyss*
James Cameron's film was one of the early adopters of integrating CGI into movies
© Twentieth Century Fox. All rights reserved

Fast, cool and oh so expensive. At $125,000 dollars each in 1985 as well as a host computer, adopters of the Pixar machine and technology were few and far between. This led to Lucasfilm electing to sell the Pixar shop and technology to Steve Jobs.

Viewing older CG movies is a bit like looking at pictures of yourself back in school. Sometimes funny, sometimes painful, but never as sophisticated and nice as you remember at the time. Some primitive morphing here, some reflection maps there, but nothing that made the audience think, "I can't believe what I'm seeing." So, in conjunction with Moore's law for computing, CG capabilities rapidly grew. The payoff came a scant five years later when arguably the first memorable character came to life, combining compositing, morphing and human movement: T-1000, the liquid-metal man in *Terminator 2: Judgement Day*. No longer was CG relegated to the category of special effects, it was used to tell a full story in a frightening and realistic way. While not human per se, it was a fully realised character in human form – well, most of the time. Additionally, it was a technological milestone, utilising the personal computer as a Hollywood cinematic tool.

> "No longer was CG relegated to the category of special effects, it was used to tell a full story in a frightening way"

© Imagine Publishing Ltd
No unauthorised copying or distribution

» *Pirates of the Caribbean*
Motion-matching software allowed the placement of computer-generated effects directly into moving scenes © Disney Enterprises, Inc. All rights reserved

> One of the nicest advancements in human and animal animation is the use of digital muscles vs morph targets. The initial setup is longer but animation is more accurate
>
> **David Burgess** – head of Character Animation, DreamWorks Animation

Two years later, in 1993, came the first photorealistic CG character integration in the form of dinosaurs in Michael Crichton's *Jurassic Park*. The synergistic relationship of Steven Spielberg, ILM specialist Dennis Muren, CG master Phil Tippett and the late modelling guru Stan Winston created the foundational methodology for motion capture and action CG matting requirements. The film production became a serious case of experimentation seeing if the 'uncanny valley' could be crossed with these giant reptiles. The answer was yes.

The production of *Jurassic Park* also became a turning point in how to approach CG. Computers were never fast enough or powerful enough, but finally the sophistication of CG software had grown to the point where it was becoming more about the creativity of the team than the limitations of the hardware and software. Gradually, the shackles of what was previously impossible to create were coming off.

Mass effect – putting hundreds onto the screen

After *Jurassic Park* came an awesome refinement and addition to CG toolsets, including hair, water interaction, vastly improved morphing and the stunning digital characters created by ILM for the *Star Wars* prequels.

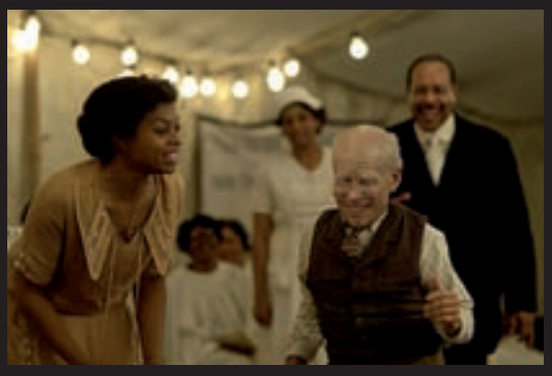
Up until this point, one adjective hadn't been used to describe movies using CG characters: epic. That was about to change with the brilliant adaptation of J. R.R. Tolkien's *The Lord of the Rings: The Fellowship of the Ring*. Suddenly, the impossible became possible, specifically the intelligent animation of hundreds of CG characters, all interacting and behaving with real physics.

CG crowds had been born in a software package called Massive thanks to the conjunction of the WETA studio and Stephen Regelous. An industry first, Massive used genuine artificial intelligence (AI) and a special feature called User Agents to manage and create autonomous crowd animation. This was a huge step beyond the particles and flocking capabilities from earlier.

Massive Software founder Stephen Regelous sums it up this way: "Massive is unique in the industry because it's a tool that allows artists to create AI." And therein lies the beauty of Massive for the everyday CG artist – it's a completely visual node-based system with drag-and-drop simplicity. Designed to integrate

Technical problems

Blending computer graphics animation with live action is a tricky challenge to attempt



CG/live-action integration requires creating two believable worlds that agree. In the case of *Benjamin Button*, this was especially true. The overall challenge was to re-create the lighting, camera moves and head motion to match exactly what was on set. HDR images were captured and processed by the tracking and compositing teams. Compositors received the camera, light positions and survey data, assembled the set in the Nuke compositing system and textured it using HDR imagery. A computer-based lighting system was built, which broke HDR lighting into components replicating set geometry and controlled them interactively to enable automatic, photoreal results.

© Imagine Publishing Ltd
No unauthorised copying or distribution

» *Vantage Point* crowd 'before' shot
Once this scene from *Vantage* was set, a small collection of extras were used for a base crowed. Massive was used to generate the rest of the crowd, including Agent actions that waved flags, jostled one another and moved their arms and legs like the 'real' extras.
VANTAGE POINT© 2008 Columbia Pictures Industries, Inc. All rights reserved. Photo: courtesy of CIS Visual Effects

» *Vantage Point* crowd 'after' shot
Massive's Stunt Agents allow each character to have predetermined behaviours yet interact uniquely with their surroundings. Other Agent behaviours include mayhem for panicking crowds. Characters interact intelligently with their surroundings and each other

+ tightly with Maya, Massive allows the CG artist to either keyframe behaviours or use BVH motion capture. Regelous states: "There is no programming involved. It's simply the artist sitting down and then trying to decide what the characters should be doing."

Such a process is called 'creating the brain' or the AI for a CG character 'Agent'. Each Agent has a catalogue of animation it is allowed to perform. There can be multiple Agents per Massive session, all with unique behaviours and responses. These Agents are then instantiated (replicated without actually duplicating geometry) to populate the scene, each with uniquely combined animation actions as a result of the AI.

But that's not all, because it gets better, as Regelous describes: "As Agents interact, it is important that the physicality of their performance is very realistic. And so we use a technique called Rigid Body Dynamics, which basically computes the physics of their body." He goes on to add: "But that wouldn't be enough on its own. With Smart Stunt (an Agent capability), the artist gets to combine the character's actual performance – the way he moves, whether it's through motion capture or keyframing – with the physics, and the two work together to give a realistic and 'in-character' performance."

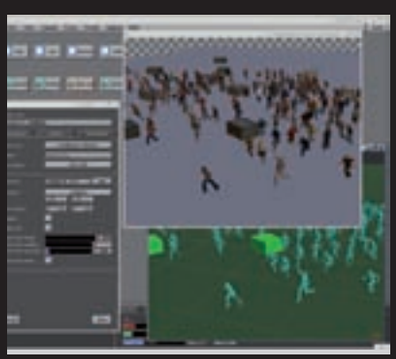
Even Regelous gets surprised with how Massive is used. He relates: "The real thing that was a step forward with usage of Massive in (the movie) *Narnia* was the way they (WETA) used Smart Stunt to create very violent interactions between characters in battle scenes."

But the use of crowds doesn't always need to be or look dramatic. In fact, it can look quite mundane. "Massive was used in over 600 shots in *King Kong* and we're really proud of it, but most people would never know that Massive was used on so much of the movie – it's kind of an invisible effect. So most of the time when you're seeing people and cars in New York, they're Massive Agents, and if birds fly by, they're Massive birds. The bats on the island were mostly Massive bats. A lot of the insects crawling around were Massive insects. It was just used all over the place."

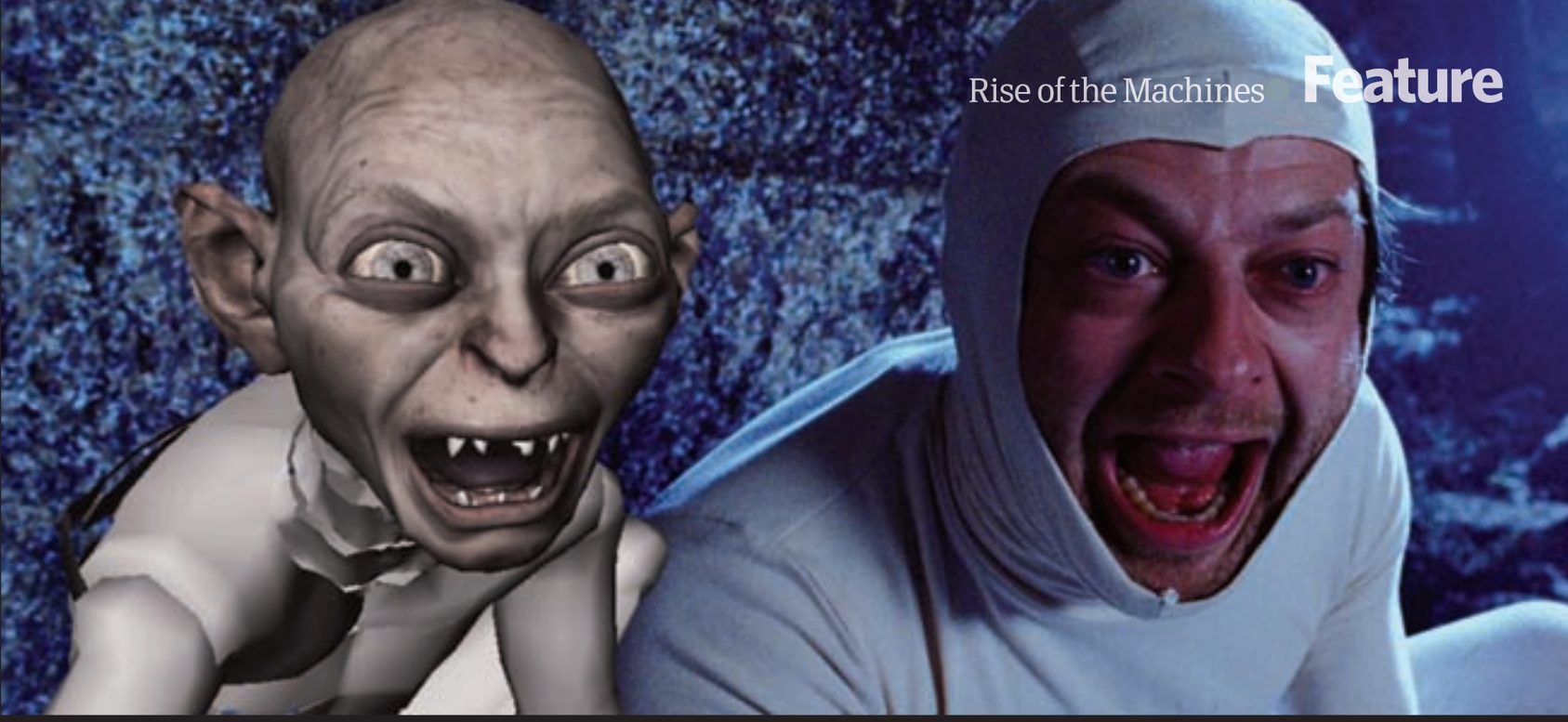
Of course, while Massive produces stunningly 'real' crowds, it has also been used for movies like DNA Production's *The Ant Bully* and Pixar's *Ratatouille*. In fact, many of the ant crowd scenes used close-ups of Massive Agents, complete with facial expressions. So what's the next step? Well, realistic close-ups.

Massive attack

The final battle scene in *The Lord of the Rings: The Return of the King* stands apart as the most epic of any CG crowd scenes to date. Incredible in both scope and detail, the battle had nearly 200,000 characters. A rich palette of 450 motions/animations were created for the Massive horse Agents. When this collection of Agents were paired with the Massive AI logic system, each character acted uniquely with its surroundings, exhibiting no noticeable repeating animation.



© Imagine Publishing Ltd
No unauthorised copying or distribution



Breathing life into Gollum

The character of Gollum was one of the standout features of the *Lord of the Rings* films, but how exactly was he animated?

Amazing is probably the best word to describe the *LOTR* CG character Gollum. The creepy, realistic visuals and characterisations were the nexus of WETA's Bay Raitt and character actor Andy Serkis. After dressing in a blue body suit with motion-tracking equipment and using a system that tracked 964 facial controls for Gollum's CG geometry, Serkis was free to act and voice the character while everything was being captured for digital production. Although the production team could have used a musculoskeletal animation system, they elected to animate his expressions by hand.

> "Every time I see the movie, I look closely at those guys and even I can't tell that they're not real. They look totally believable"
>
> **Peter Jackson,** director of *Lord of the Rings*

Attempting to cross the uncanny valley

The uncanny valley, that awkward creepy space between almost real and totally realistic, exacts an expensive toll on artists, technologists and computer production pipelines.

Reality is a jealous mistress, and CG artists have kept returning for years in pursuit of the imperfections and details that make up the real world. What Massive Software has done for CG crowd control, the digital production studio Digital Domain has finally done for completely realistic human CG characters worthy of close-ups.

Of course, integrating live action and real people to CG characters is always an issue, too. Simply put, actors and actresses must respond with conviction to something that isn't there. It's like playing make believe as a child all over again. Thanks to robust digital compositing, using blue/green screens and action/actor doubles with special markers on their blue/green suits have eased the ability to get motion-tracking shots and lens correction information to feedback to CG creators. This is then used to make sure the virtual camera is in the correct place. But that doesn't mean that it's not difficult or problematic.

The devil is in the details on CG projects, and crossing the uncanny valley into the realm of believability came with significant headaches for Digital Domain when producing *The Curious Case of Benjamin Button* – a movie about a man who ages backwards. For the first 52 minutes of the movie, actor Brad Pitt needed to appear on screen significantly older, 40 years to 20 years in fact. For those 52 minutes, his face is 100 per cent computer generated with no projection mapping techniques.

Rick Baker, the legendary make-up artist, made three sculptures of Pitt, aged to around 80, 70 and 60, which Digital Domain scanned into a computer. Then Pitt performed a range of facial expressions wearing phosphorescent make-up while he was shot with 28 digital cameras in three dimensions. That gave the Digital Domain team a database of every expression that Pitt's face could make.

Visual effects supervisor Eric Barba shares: "The scenes were shot with body actors wearing blue hoods that would let artists remove their heads easily later. Then, totally separately, Brad Pitt performed the scenes on a sound stage and was shot with four digital cameras. The image analysis data from Pitt performing the facial expressions and the scenes were then matched and mapped onto a computer model of Benjamin at his older ages."

Animators then applied their artistry to tip the performance in one direction or another under David Fincher's direction. Once Digital Domain created the head, they placed it precisely on the body actor's spine and integrated it into the shot with lighting and compositing.

© Imagine Publishing Ltd
No unauthorised copying or distribution

Duncan Evans talks to Mark Lim of Ocular Production Pte about creating stunning visualisation images from a base in Southeast Asia

An eye on the Orient

> One common request is the adding of 'dramatic' effects into the visuals, as seen in our recent renderings for the Singapore Grand Prix 2008

Mark Lim Chief Creative Officer at Ocular Production

Company *Ocular Production Pte Ltd*
Founded *2004*
Company website *www.ocularproduction.com.sg*
Country *Singapore*
Software used *3ds Max*
Expertise *Architectural/interior visualisation*
Client list *Crowne Plaza Hotels; Kempinski Hotels; Ungasan Resort, Bali; Pearl InterContinental Hotels; Pierre Hotels; InterContinental Nanjing Hotel; Park Hotel, Chongqing, China; La Moda Café, Indonesia*

Unusually for a 3D architecture and product visualisation company, the founders Mark Lim and Dominic Chee didn't meet at university or in a business environment. They met during annual camp training in the army. In Singapore all men have to perform an active military service for three years. Upon completion, they have to report annually for in-camp training of one to three weeks for a ten-year cycle. It was at one of these camps that the two founders met up and decided to found Ocular Production in 2004.

Mark's educational training includes graduating with a diploma in Engineering from Temasek Polytechnic, Singapore, while Dominic's background is in Accountancy and has an MBA from the National Technological University, Singapore. They set up the main office in Singapore because it's a well-developed and connected location in Southeast Asia. From there, they added another office in Malaysia and then tied up marketing and satellite offices around the world. Now Ocular has an international marketing effort, which has resulted in 70 per cent of their business coming from outside markets.

3DA: *What are the main services that Ocular Production offers?*
Mark Lim: We provide high-end photorealistic architectural and interior visualisation services. We also produce concept art for commercial products and medical services.

A The interior of Kidszone, Indonesia

B Plaza Indonesia, Jakarta, is a modern shopping mall that combines selling high-fashion brand names with the traditional stalls of Indonesia. This image shows how the building would fit into the fast-paced environment

© Imagine Publishing Ltd
No unauthorised copying or distribution

© Imagine Publishing Ltd
No unauthorised copying or distribution

© Imagine Publishing Ltd
No unauthorised copying or distribution

D

3DA: *Who are or have been some of your main clients?*
ML: We have worked with a number of hotel chains and international design studios. Among this number are Hirsch Bedner Associates, Wilson Associates and Woodhead International.

3DA: *Your portfolio covers a range of styles from architectural, interior design and real estate. Is the approach different for each, or is it always tailored to the project itself?*
ML: While our strength is in detailing and photorealism, we do tailor our approach to each project. One common request is the adding of 'dramatic' effects into the visuals, as seen in our recent renderings for the Singapore Grand Prix 2008.

3DA: *Can you explain why your modular drawing management system is unique? What are the advantages to it over more traditional methods?*
ML: One of the challenges in our trade is the maintaining of quality with quantity. This is made tougher as our trade is a mix of art and science. It is never easy to quantify qualitative elements. Our answer to that is MDM and an effective project management system. The MDM system allows us to manage a large volume of work with consistent quality. At Ocular, artists are grouped based on their different strengths, eg, modelling team, lighting team, etc. Work is then performed in the style of a conveyor belt.

3DA: *What software did you use to model and render most of your still and animated projects with?*
ML: We use 3ds Max, which is the standard for those in the architectural and product visualisation industry.

3DA: *How many people typically work on a project in-house at Ocular Production?*
ML: It depends on the project size, really. For a project's stills, we will typically use three artists. However, we do have people who we can pull in for bigger projects when the need arises.

3DA: *There is a lot of construction in the Gulf at the moment, even with the current economic downturn. Are you being commissioned for interior work for the hotel and business projects?*
ML: Yes, we are. There has been a slowdown, but those projects that have been greenlighted still need interior designs to bring them to life, and this is our area of speciality.

3DA: *Where do most of Ocular Production's clients come from, and if this is external to Singapore, how have you marketed your company in order to attract valuable overseas commissions?*
ML: We have 30 per cent of our business locally but 70 per cent comes from overseas markets. To achieve this we use a number of marketing strategies, including web-based adverts, a high-visibility website and optimised links for search engines.

3DA: *Many countries are struggling with the downtime in the global economy. Do you find this is affecting the market for visualisation and interior design?*
ML: We have experienced a drop in sales and the downturn is definitely hurting the industry. We are, however, grateful to our marketing and support from our global clients. With a worldwide clientele base, our business risks have been kept to a manageable level.

> "Ocular aims to provide the full spectrum of visualisation services… to be better than the cheap, and cheaper than the good"

3DA: *What are your plans and ambitions for the company in the coming years?*
ML: Ocular Production aims to provide the full spectrum of visualisation services. We seek to be 'better than the cheap, and cheaper than the good'. As we hone our skills and processes, we seek to reach the pinnacle of our craft – delivering excellent work to our customers at the best possible value. We are also looking into the media, movie and gaming markets.

C The Palace Luzern, Switzerland, is a haven of hospitality, which combines old-world charm with the most modern comforts. Ocular took part in the renovation process to update rooms and areas over 100 years old

D The restaurant in the entertaining complex situated in the Hotel Zhenchuzhina, Russia

© Imagine Publishing Ltd
No unauthorised copying or distribution

Model, texture, light, render and post-process

Step by step

Easy-to-follow guides take you from concept to the final render

Artist info

Andre McGrail

Personal portfolio site www.3dcluster.co.nz

Country New Zealand

Software used Modo, ZBrush and Photoshop

Expertise We specialise in 3D for print – these include magazine ads, billboards, metrolight, posters, etc. Working on 3D for print gives us some challenges unseen in animation and film: there is no motion to hide things and it needs to be of a very high detail.

Software used in this piece

Maya Modo ZBrush

© Imagine Publishing Ltd
No unauthorised copying or distribution

Step by step: Create two legendary enemies in Modo

Alien vs Predator: Pool 2009

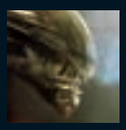
On the Disc
Set of four different resolution wallpapers for your desktop!

> This image was created for Sky to advertise the airing of the Alien vs Predator films. It was to show the two creatures from the films in a competitive situation

Andre McGrail, David Partridge and Benjamin Parry We are a small group of freelancers working in the advertising industry

© Imagine Publishing Ltd
No unauthorised copying or distribution

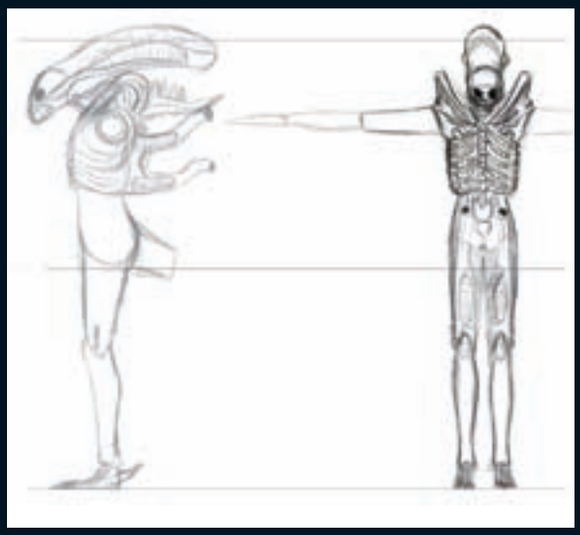
This tutorial will go through all the key steps we took to produce the image the client was after. We needed to create Alien and Predator from scratch, surface and light them into a scene that was provided to us as a background image. Modo is the choice of program for us, as it's great for producing very high-res images and has a lot of features we find helpful in print. ZBrush, being great for organic models, was used to detail Predator. One of the problems we encounter often is getting the scene to render, because since it's for print the minimum res is generally A4 300dpi, which not only causes problems at render time but also with things such as displacement details and texture resolution. Problems specific to this job were trying to re-create some of the most recognised aliens/creatures in the movie industry at a very high resolution, and out of their usual dark surroundings.



First steps

Sketching and modelling the characters

01 Referencing Luckily, the referencing for these two characters was as easy as just going on Google Image Search. There we found a nice collection of images of the two creatures we had to model. We also had a McFarlane model of Alien to work from, and watched parts of the AvP films.



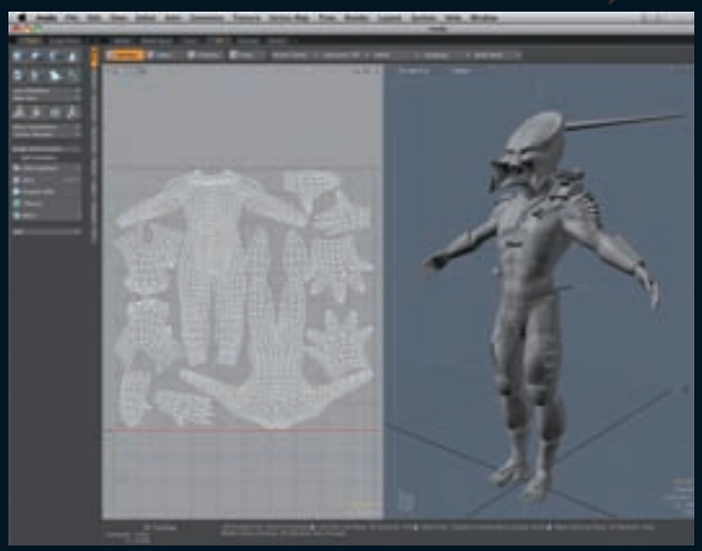
02 Sketching of Alien We made a front and rough side sketch of Alien to make the modelling stage flow a bit more smoothly, as he has a lot of technical details. These were quickly drawn from the McFarlane model, because we were able to see Alien from all angles quite easily.

Modelling the characters

We knew creating Alien and Predator would be an epic challenge. For Predator we used ZBrush; for Alien, we decided that poly modelling and painted displacements would be enough. With the reference and sketches, we started blocking out the characters. For Predator we made a basic human body to work off. Alien needed an elongated figure and features different from a human form. Predator was taken into ZBrush and detailing begun; Alien's displacement maps were made in Photoshop. Modelling generally went smoothly. One challenge was getting detail from the ZBrush model into Modo for rendering, and we spent a while changing displacement settings; exporting the base mesh helped. Posing the characters was another challenge. Modo has no rigging options, but the great range of action centres and fall-offs made it fairly easy.

03 Modelling of Predator Predator, being fairly humanoid, we were able to use human reference images in the background. These were very useful for getting the muscle groups right. Starting at the head – since it's the most recognisable feature of Predator – then working down the body using the reference, the basic form was created.

04 Modelling of Predator II Details were modelled for Predator such as teeth, eyes, hair, armour and clothes. At this point in time, only one strand of hair was made and it wasn't posed. Everything was then UV'd and exported as an OBJ to load up in ZBrush, where all the detailing would happen.



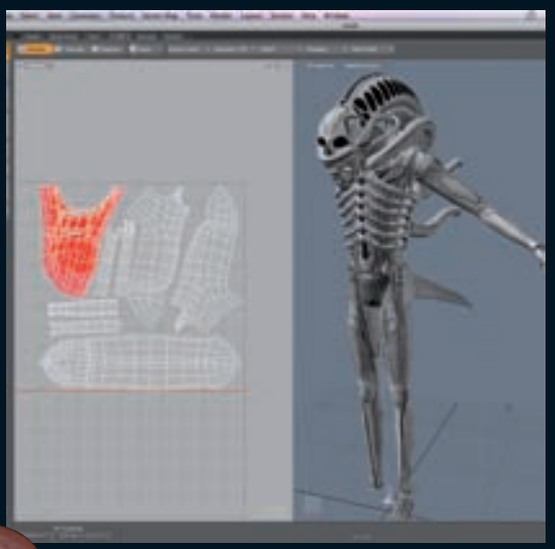
© Imagine Publishing Ltd
No unauthorised copying or distribution

Starting to fine-tune

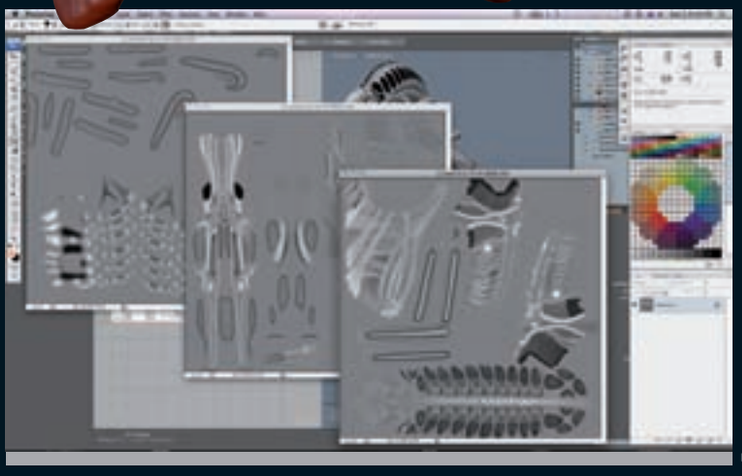
More modelling and a bit of sculpting

05 Modelling of Alien We took the rough sketches into Modo and started to model the basic forms, starting with the head then moving down. The head was hardest, as it's the most recognisable part of Alien – the mouth was especially hard. The chest piece was also difficult, as it was a single piece that started at the ribs at the front and carried on to the back with pipes extruding from it, then over the shoulders connecting back to the front.

06 Modelling of Alien II Pipes were made with the Tube tool in Modo. This tool is a life-saver because it's easy to use and automatically generates a UV map. The tail was made with a cylinder and cloning a bone shape down it; the UVs were made before the clone to make it simpler to texture. The whole thing was then UV'd so a guide texture could be created to ease the creation of a displacement map in Photoshop.



07 Sculpting Predator in ZBrush Once Predator was loaded into ZBrush, the sculpting began. The first thing to be done was to add muscle detail and form, then move on to some of the detailing. Standard brushes were used with a combination of different alphas to create the skin texture. The armour and weapons had their displacements painted by hand in Photoshop to help keep the edges sharp.



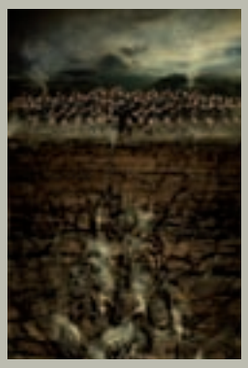
08 Displacement painting for Alien Painting displacement maps in Photoshop was the easy choice, as Alien is made up of many small pipes, holes and shapes protruding from its surface. First we loaded up the guide texture that was created in Modo using the inbuilt Painting tools. Painting the displacements in Photoshop gave us more control and made it easy to change the height of individual shapes and features when necessary.

© Imagine Publishing Ltd
No unauthorised copying or distribution

Artist Showcase

3Dcluster

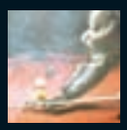
We're a collective of 3D freelancers from New Zealand. We specialise in print and detailed stills for advertising. We use Modo for 3D as it has a great renderer and it's easy to change things.



All Blacks: Of This Earth **Modo, Photoshop 2008**
For the above campaign. The Tikis were basic; we created displacements to add the patterns and rock texture.

Lego Boat **Modo 2008**
This image was created for Lego for the company's 50th anniversary. Three were made – the other two were a sports car and a motorcycle.

Sorted Mouse: Money Jar **Modo, Cinema4D, Maya 2007**
This mouse was made for Sorted – it was part of a large group of works. The mouse was rigged in Maya, then taken to Cinema4D for fur, and finally back to Modo for final rendering



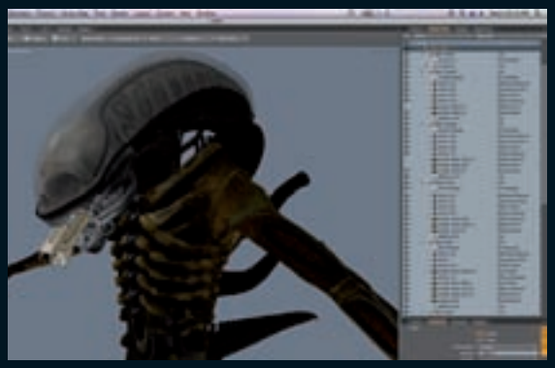
Preparing for battle

Posing and rendering, surfacing and texturing

09 Bringing Predator back Once Predator was finished, we had to bring it back to Modo for posing and rendering. First we had to re-export the base mesh in ZBrush, as changes from the OBJ were evident. Once we had a low poly in Modo, we exported displacement maps from ZBrush to apply to the shader in Modo.

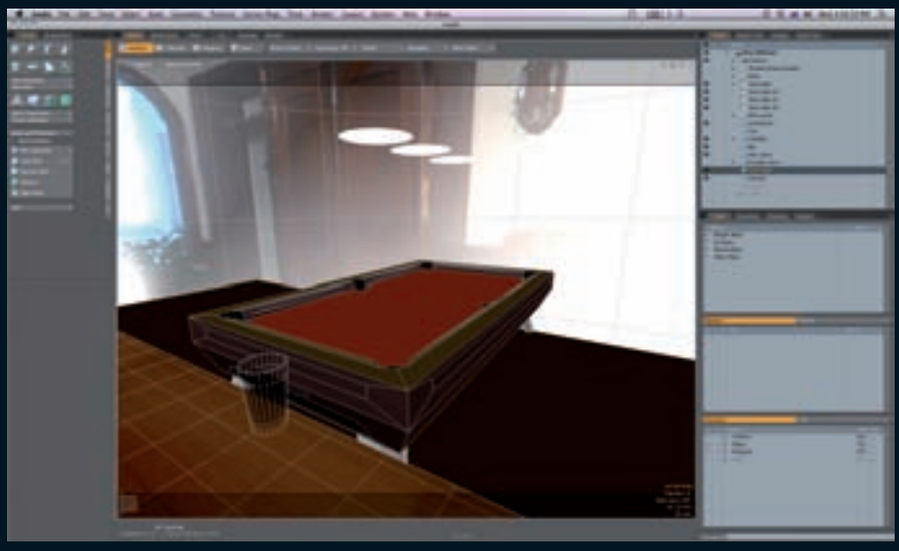
Lighting and rendering

Lighting the scene was going to be difficult, as having to match it to an already lit photograph would take some tweaking. First, when lighting a scene to match a photograph we found a HDRI that roughly matched the scene. This helped with creating those super bright points in reflections. We then re-created visible light sources in the image. For this we used three spotlights along with three super bright discs to create the hotspots on reflections. Then we checked the scene and added lights to make the overall image more aesthetically pleasing. A little fog was added at the end to help with the smoky bar look.



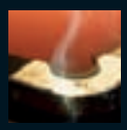
10 Surfacing and texturing Alien Once we had the displacements done in Photoshop, creating colour maps was easy. They were then applied to the model. As Modo's materials are layer based, we stacked layers of procedurals to add to the surface. These help take the uniform surface and add randomness. Alien was hard to get right, as in the movies he's covered in slimy liquid. This was achieved by having a high reflection fresnel so the edges were glossy.

11 Surfacing and texturing Predator A colour texture for Predator was painted in ZBrush over the high poly to help keep the detail level high. This was then exported out, loaded into Modo and applied to his shader. From this colour map we created SSS, diffuse and reflection maps through filters and editing in Photoshop. Once all applied to the shader, tweaking started by changing high and low values. Procedurals were also used to help create realism. Diffuse and reflection maps for the armour were painted directly onto the mesh in Modo, because at this point in the project we were running out of time.



12 Mocking up the scene Since we were placing the two creatures into a photographic environment, we only needed to create rough objects of the scene. For this image we only had to create a pool table and a ground plane to catch the shadows. A pool cue was made for Predator, and a bar was placed in the image for Alien to lean on, as well as a cigarette and pint of beer for Alien.

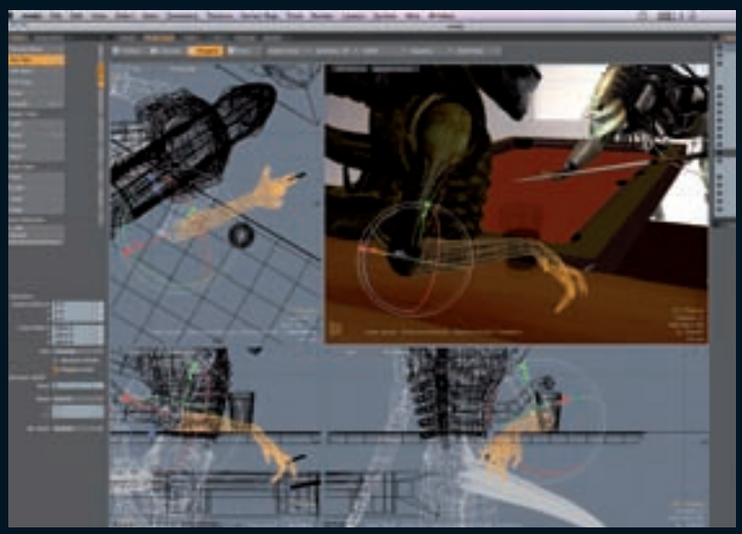
© Imagine Publishing Ltd
No unauthorised copying or distribution



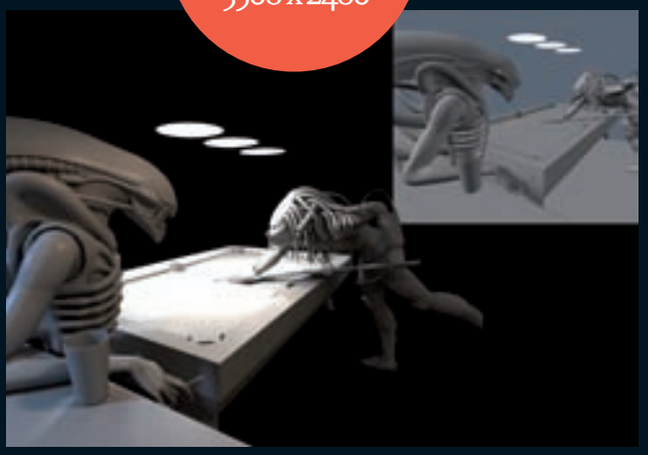
Finishing touches

What a couple of posers!

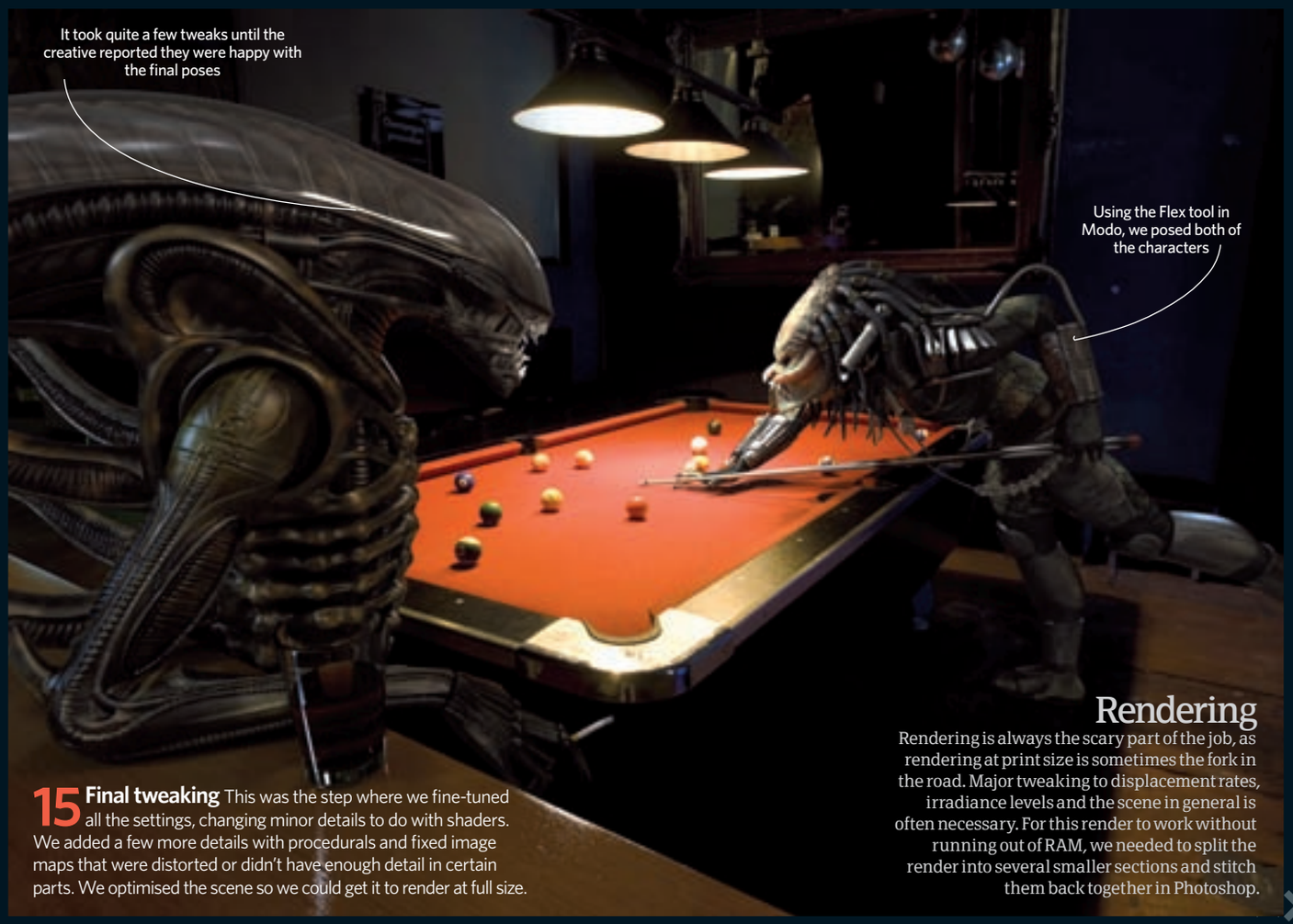
14 hours
Render time
Resolution:
3508 x 2480



13 Posing Modo hasn't yet implemented character rigging, so we had to do the poses by hand. Thankfully, Modo has some amazing tools such as the Flex tool and a great selection of action centres and fall-offs to aid in doing deformations. After posing, we sent off a test render to be critiqued by the creative, and tweaks were made until they were happy.



14 Matching the lighting Lighting was created by mapping a HDRI onto a sphere which has its polygons flipped. This sphere was big enough to contain the entire scene, and once applied as a luminance colour, the hotspots created light, thus lighting the scene. Using this method helped make the scene realistic. Spotlights were used to mimic the three lights above the pool table, and a few directional lights were added to create rim and fill lights.


It took quite a few tweaks until the creative reported they were happy with the final poses
Using the Flex tool in Modo, we posed both of the characters

15 Final tweaking This was the step where we fine-tuned all the settings, changing minor details to do with shaders. We added a few more details with procedurals and fixed image maps that were distorted or didn't have enough detail in certain parts. We optimised the scene so we could get it to render at full size.

Rendering

Rendering is always the scary part of the job, as rendering at print size is sometimes the fork in the road. Major tweaking to displacement rates, irradiance levels and the scene in general is often necessary. For this render to work without running out of RAM, we needed to split the render into several smaller sections and stitch them back together in Photoshop.

© Imagine Publishing Ltd
No unauthorised copying or distribution

I made this...

Incredible 3D artists take us behind their artwork

Artist info

José María Andrés Martín

3DArtistonline
Username: ALZHEM

Personal portfolio site
www.alzhem.com

Country Spain

Software used 3ds Max, Mudbox, VRay and Photoshop

About the process: I started with a very rough shape, mainly to get the volume of the body and length of arms and legs. Then I refined the mesh to get a decent mesh (loops-wise), and exported to Mudbox, where the final details were made. From Mudbox I exported the new mid poly mesh and the normal maps.

The initial schedule for the scene was eight (pretty intense) days, so the banana would take three days to get it done, and the pear and strawberry two days each. They were modelled straight in the final pose, so I wouldn't spend any time rigging and skinning them.

© Imagine Publishing Ltd
No unauthorised copying or distribution

> This part was quite tricky. The main light should come from the street lights, but then the strawberry's face would be very dark. So I had an imaginary light emitter lighting her face. I also added two rims per character to define the volume (one thin and intense for the border, the other spread and softer)

Software used in this piece

3ds Max · Mudbox · VRay · Photoshop

> I set the resolution to 5000 x 3500, and rendered a bunch of passes per character and background, with VRay, then opened them in Photoshop. I then tweaked the image so in the end it looked a lot better

Fruity Flash
2009

For this image I wanted to create quite a plain background to avoid distracting attention from the characters. That's why it doesn't have any kind of graffiti or big detail. The kerb, street light and sewer were modelled initially in 3ds Max and then exported to Mudbox for further high poly details and texture.

> I decided on using a spiral composition using the golden section

My intention has always been not to leave anyone indifferent to this image. Unconsciously your eyes start on the top left part of the image (occidental way of reading) and quickly move to the eyes-mouth of the pear. Then the attention passes to the face of the strawberry, and her eyes make you focus on the body of the banana whose curve takes you to his face. This looks like a complex process but takes just an instant for the brain. That's the moment when you realise how naughty the banana is, ha ha ha.

© Imagine Publishing Ltd
No unauthorised copying or distribution

On the Disc

Old_Elf_anim_test.mov
Some movie files of early test renders/animations of Old Elven Archer as a WIP for the animated sequence.

Software used in this piece

Softimage | Photoshop

> The face rig was the most important part in order to sell the believability of the character in motion

© Imagine Publishing Ltd
No unauthorised copying or distribution

Step by step: The making of Old Elven Archer

Step by step
Easy-to-follow guides take you from concept to the final render

Artist info

Thaddeus Mitra Maharaj

Personal portfolio site www.thechindian.com
Country Trinidad and Tobago
Software used Maya 8.5, ZBrush 3.1, Softimage XSI 6.5, Photoshop, Unfold3D
Expertise I specialise in character design and creation, including concept art, modelling, high-poly 3D sculpts, texturing and shading

Old Elven Archer 2009

Model, texture, light, rigging and render

"This was meant as a learning project for myself. The style was influenced by a lot of popular elven interpretations, including *Lord Of The Rings, Warcraft* and other such games and films"

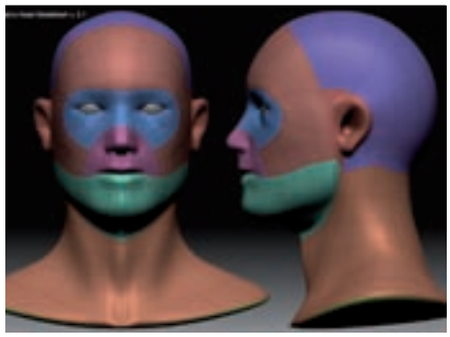
Thaddeus Maharaj is a freelance 3D character artist

This tutorial will be focusing on the process of creating this old elf warrior from the very beginning, covering design and sculpting, texturing and shading to rigging and animation, and then the final output of the print and the composited animation sequence.

Additionally, throughout this step-by-step walkthrough there will be an overview of the use of Maya, ZBrush, Softimage and After Effects in the production of this project, as well as several of the techniques that I utilised in creating Old Elven Archer. There are some sample MOV movie files on the magazine CD that show final image test animations from the rigging process.

Design concepts

Rough ideas to designing the model



01 This model wasn't really planned out per se, but instead it developed quite organically. I started out with my metamesh for heads (a concept that I borrowed from Alex Huguet) and was just doing a miscellaneous sculpt of an old man's head for practice. The metamesh is simply a mesh I've built with topology that makes a good base for quick sculpting in ZBrush.

02 This is the final sculpt for the head that I ended up with after about a day or two of sculpting in my free time. From here, I got the inspiration to make this quick sculpt into more of a full project and wanted to see just how far I could push it.

03 After finishing the head sculpt, I then did a quick sketch of what I had in mind for the character. I looked at the sculpt and to me he looked like an old wise elf who has maybe seen his share of battles. Thus, I wanted to create a scene that portrayed these characteristics.

© Imagine Publishing Ltd
No unauthorised copying or distribution

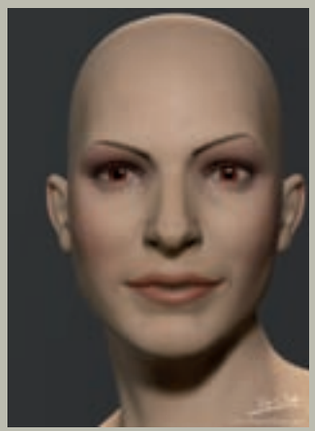
Artist Showcase

Thaddeus Mitra Maharaj

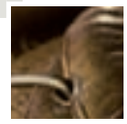
I grew up drawing, and studied Art in high school. I started off with traditional media – painting, illustration and sculpting – but later found out about 3D. This has now become the perfect medium for me to express my creativity, and my art background definitely helps a lot!

Rampage **ZBrush, Softimage (2009)**
This was a sculpt that I started making for Pixologic's Action Hero Contest. Unfortunately, I was not able to complete it in time due to my workload. However, I do intend on finishing it in my free time.

The Beast **Softimage, Maya, ZBrush, Photoshop (2007)**
This was one of the characters I made for my demo reel in VFS. It was based on a sketch I had done a long time ago. The beast is a sort of parasitic monstrosity that is controlled by an evil mastermind through the machinery on its back.



Woman's Head WIP **ZBrush, Maya, Photoshop (2008)**
This is a render of a female head I did for practice. I used several actresses and models as reference to create this character. The textures are painted by hand in Photoshop. No photos were used.



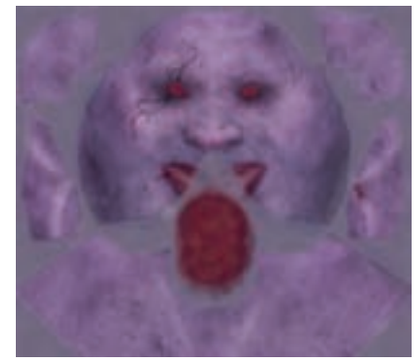
Implementation

How the elements were put together

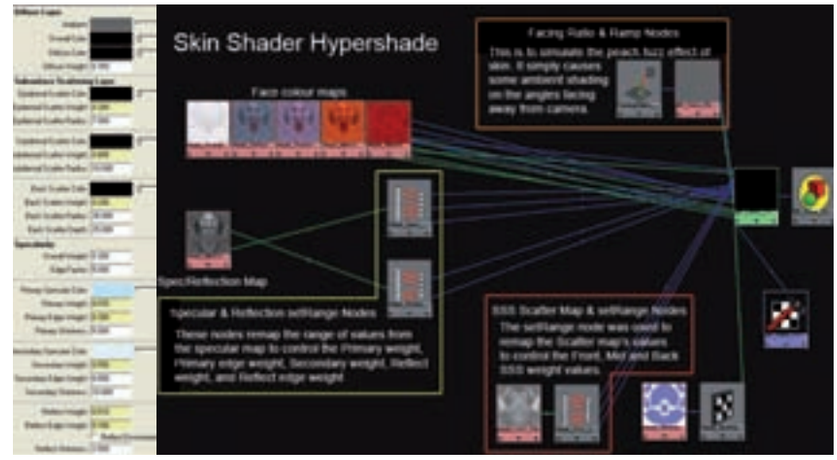
04 **I modelled the** base meshes for the clothing and accessories in Softimage very roughly and then brought them into ZBrush for sculpting. I do the majority of my modelling work in ZBrush now and just use Softimage for creating base topologies.

05 **The piece of** leaf armour was almost entirely done in ZBrush. I started off sculpting on a plane, then hid the excess polys and used Retopo with Mesh Extract to give thickness to the piece. Afterwards I just did some cleaning up and finishing to achieve the final sculpt.

06 **Here is the** final sculpt of the elf with the base topology laid over. This is also the final mesh that I rigged and animated. From here, I laid out the UVs and started texturing.



07 **All the textures** on the elf's head were painted by hand as I wanted to see how far I could push my abilities with hand-painted textures. It was achieved through various custom brushes in Photoshop and a lot of layering! I also used Occlusion, Normal and Cavity maps from the high-res sculpt to add more details to the textures.



08 **The skin shader** is one of the most important aspects of realistic-looking skin. I think I went a little overboard on the amount of maps I used for this, however, it gave me complete control over the final output. I used the fast_sss_skin shader in mental ray for Maya.

© Imagine Publishing Ltd
No unauthorised copying or distribution

Lighting and rendering

Putting the final touches in place

2-3 hours render time
Resolution: 2800 x 3600

09 **Once the texturing** was finished, I decided I wanted to push this project further than just a still frame, so I built a simple rig for the character. The face rig was the most important part in order to sell the believability of the character in motion.

10 **The blendshape library** was very important since what I had planned was a close-up animation of the face. Most of the major shapes were modelled in ZBrush and in-betweens were made for some shapes to make the motion more nonlinear.

Textures

The textures on the elf's head were all hand painted in Photoshop on separate layers and then blended together. Custom brushes made the job easier. These needed to be detailed and to unfold correctly as the next stage was to rig the character for animation.

11 **Next, I did** a test of the face rig to see how all the components were working together – the joints, blendshapes and fleshy eyes setup. You can view this test in the included movies on the cover disc.

12 **Once I was** happy with the rig, I started blocking out the animation. I used Maya Live to capture the camera movement from some footage I filmed with my digital camera, and animated the elf through traditional keyframing. You can also view this test in the included movies on the CD.

13 **The lighting setup** was pretty basic – four lights with linear decay. I rendered out passes for hair, beauty, depth, occlusion and background. The background was made of some pictures I took at a nature reserve and stitched together. Everything was composited in Softimage's built-in compositor. I used After Effects to add some post-production effects, such as lens flares, scratches, flickers and dust to give it the look of old footage.

Summary

This project evolved into something a lot bigger than what initially started as just a speed sculpt. However, it was an awesome learning experience. For the rigging process, to get the correct movement of the face I had to employ techniques I learnt from the Alias *Hyper-Real Character Creation* DVDs, which I highly recommend! You can see the full cut of the footage of the elf on my site, as well as links to portfolio images and videos.

© Imagine Publishing Ltd
No unauthorised copying or distribution

I made this...

Incredible 3D artists take us behind their artwork

Artist info

Adrian Guerra

3DArtistonline.com

Username: Adrianguerra

Personal portfolio site
www.oscurocardinal.com

Country Tegucigalpa, Honduras

Software used Maya, Mudbox, Photoshop

"For modelling I used Maya and I mainly decided to use polygons, but later I had to combine with NURBS and subdivision object, then I used Mudbox to add details like wrinkles, veins and skin detail"

"For lighting I used primarily three lights: a spotlight and two area lights, and a dome with HDRI texture to achieve reflex points and additional lighting"

Comment on this piece
Register with us today at
3DArtistonline.com
www.3dartistonline.com
to view the art and chat to the artist

Software used in this piece

Maya | Mudbox | Photoshop

© Imagine Publishing Ltd
No unauthorised copying or distribution

“For the render I used mental ray with Final Gathering. The real work of rendering was divided into layers such as Tecnos, Mochila, Shadows, Irradiance, Specular, Depth 1, Ambient Occlusion and, of course, a Master Beauty, to be composed later in Photoshop”

Alien Scene
2009

The idea and main purpose of making a 3D alien was because I have always been a fan of science fiction. And this specific idea had been going round and round in my head for days, so I decided to put my shoulder to the wheel!

© Imagine Publishing Ltd
No unauthorised copying or distribution

Part one

part two next issue!

Step by step: Create a gas station diner

Tower Station and Drop-In Café 2009

> In this tutorial, we're going to go back to the mid-Fifties in an attempt to recapture a moment from American motoring history

Lance Hitchings, graphics designer

On the Disc

TowerStation_pt1_final.mbj

Save yourself some modelling time by using the raw model, textures and objects

> Since this is an outdoor scene, we'll be using Maya's Physical Sun & Sky nodes to create natural lighting

© Imagine Publishing Ltd
No unauthorised copying or distribution

Step by step

Easy-to-follow guides take you from concept to the final render

Artist info

Lance Hitchings

3DArtistonline
Username: lhitch

Personal portfolio site
www.hitchingsdesign.com

Country USA

Software used Maya, Photoshop

Expertise I excel at producing photo-realistic images, particularly of hard-surface objects. Most of my projects are product illustrations.

In the American car culture of the Thirties, Forties and Fifties, taking a leisurely trip by automobile was the preferred mode of travel. Travelling from Chicago to Los Angeles was a four to five-day trip, and the only way to go was by the 'Mother Road', which is the famous US Route 66, also known as the Will Rogers Highway.

Needless to say, a bumper crop of service stations grew along the route to accommodate the constant flow of tourists. Many were beautifully designed in Art Deco styles, and one of the most famous is the Tower Station and Drop-In Cafe located in Shamrock, Texas.

In this tutorial, we're going back to the mid-Fifties in an attempt to recapture a moment from American motoring history. In the first of this two-part tutorial, we'll compose and light the scene, build meshes for all of the objects in the scene and UV map those objects in preparation for the texturing we'll do in part two.

We'll also set up some basic lighting, to get a sense of the mood we'll eventually create. Since this is an outdoor scene, we'll be using Maya's Physical Sun & Sky nodes to create natural lighting, rather than build a complex lighting rig.

And finally, we'll face the challenge of building some believable terrain to use as a backdrop. We'll convert terrain elevation data from the US Geological Service into a mesh using a displacement node.

Model, terrain maps and lighting

Software used in this piece

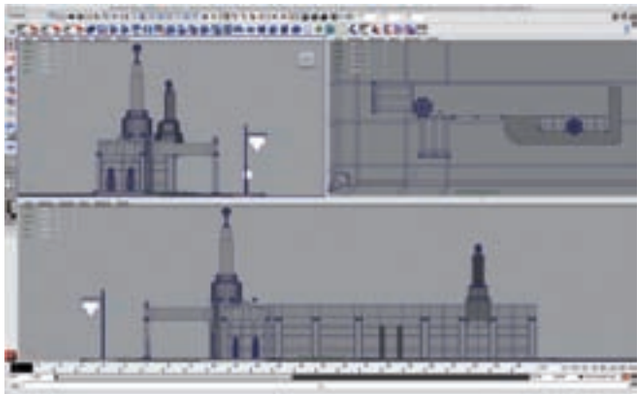
Maya Photoshop

© Imagine Publishing Ltd
No unauthorised copying or distribution

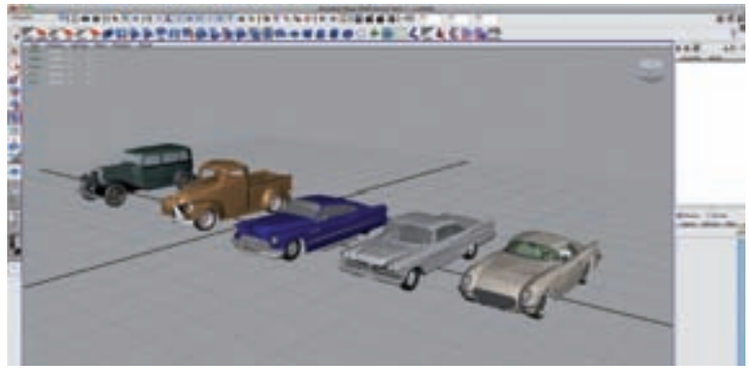
Setting the stage

Research and blocking

01 **I've long wanted** to do a series of vintage service stations and have been collecting photo scraps of old stations for quite a while. When I first saw a photo of the Tower Station in Shamrock, Texas, I knew it would be my first station. Since the station has been fully restored to its original condition, it has become quite famous. As a result, there is a profusion of images available on the web – many of them in high resolution. I collected as many as I could find, concentrating on images that focused on details of the station.



02 **With great source** material in hand, the first step is to lay out the composition. I start with simple, primitive shapes that I can build quickly, to stand in for the highly detailed meshes I'll build later. They still capture most of the significant architectural shapes of the structure. In addition to the building, I also built the parking lot, curb, street, gas pumps and signage.



03 **You can't portray** a moment from automotive history without cars. For the blocking of the composition, I decided to use simple models that I downloaded from the web. The best place to find lo-res models of cars is the Google SketchUp 3D Warehouse: **http://sketchup.google.com/3dwarehouse**. I was looking for cars from the Fifties, and unfortunately the selection is pretty small. After I downloaded the cars, I then opened the models in SketchUp Pro and exported them in the FBX format.

04 **With all the** primary objects in hand, I set about to compose the scene. I built from the ground up, placing the parking lot first and then the building on top of that. I then began to dress the scene with the gas pumps, signage and cars.

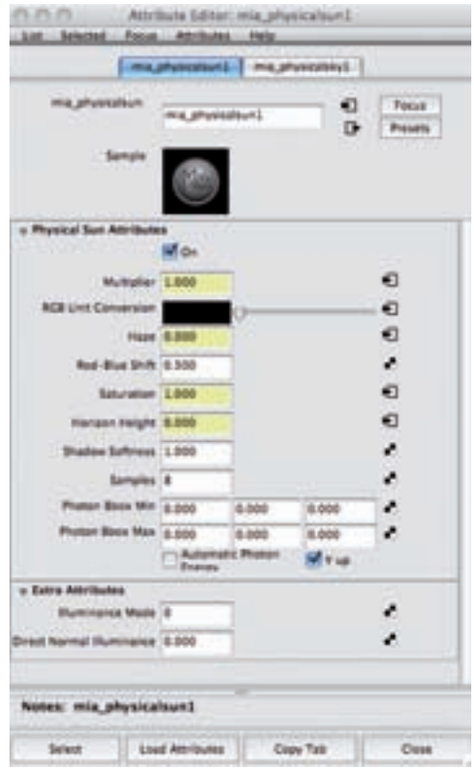
05 **Typically, lighting is** one of the last things that I will do when building a scene. However, for a scene as rich in mood as this one, lighting becomes a major component of the composition. So I decided to set up some basic lighting at this stage, to give me a stronger sense of how the various compositions I intended to try would actually read.

I was pretty sure that I wanted the scene to be set somewhere between late afternoon and dusk, and Maya's Physical Sun and Sky nodes were the tools for the job. These are Mental Ray nodes, so you will need to have Mental Ray loaded. In the Render Setting dialog box, under Mental Ray, scroll down to the Environment tab and click on the Create button next to Physical Sun and Sky. This will create all the necessary nodes, linked together in a functional network.

© Imagine Publishing Ltd
No unauthorised copying or distribution

06 The Physical Sun and Sky nodes are connected to your camera. Maya creates five new nodes: a sunShape node (directional light), a mia_physicalsun node (drives the sunShape node), a mia_physicalsky node (an environmental shader synced up with the sun node), a sunDirection node (creates a renderable sun disk in your sky), and an ia_exposure_simple node (a lens shader).

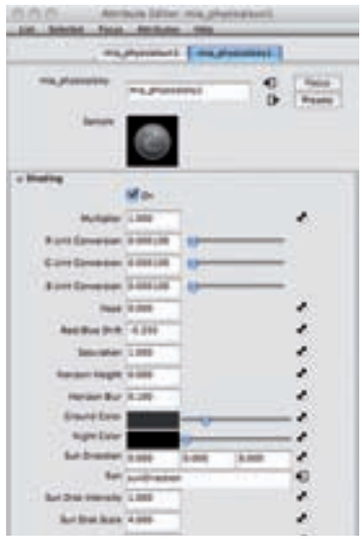
07 The primary attributes that need to be set for the sun node are those relating to the shadow softness. As shadows become more distant from the object, they become softer. A higher value in the Shadow Softness attribute increases this softness. A higher value in the Samples attribute increases the quality of that softness, for example: a low value makes the soft edge of the shadow grainy. The Multiplier, Haze, Red-Blue Shift, Saturation and Horizon Height attributes are driven by the sky node.

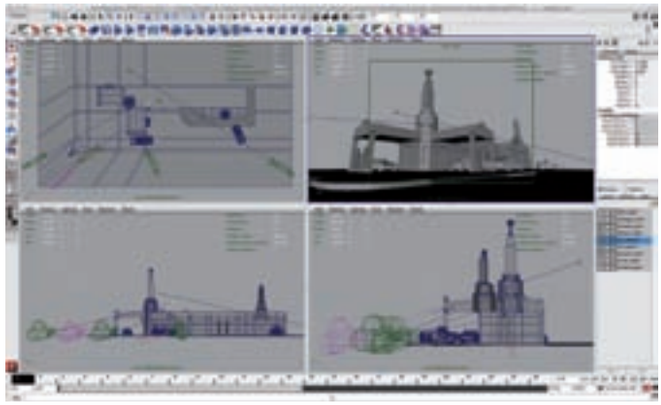


Alter the attributes

By default, several of the attributes you set in the sky shader automatically drive those same attributes in the sun shader. However, you can go into the Attribute Editor for the sun shader and break the connection for the Red-Blue Shift. This allows you to warm up the sunlight and cool down the sky, which gives you cool shadows. A nice contrast to the warm sunlight.

08 In the sky shader, the Multiplier attribute increases the amount of ambient illumination. Haze creates a distance haze in conjunction with Visible Distance. Red-Blue shift gives artistic control over the 'redness' of the light. Values range from -1.0 (extremely blue) to +1.0 (extremely red). Parameters range from 0.0 (black & white) to 2.0 (extremely boosted saturation). Night Color controls the darkest the night sky will get. Sun Direction is controlled by the rotation of the sunShape directional light. Sun Disk Intensity and Scale control how bright and large the rendered sun disk is.





09 When setting up the cameras, I used the Create>Camera>Camera And Aim. This gives me finer control over positioning and aiming the camera. The Aim locator controls the rotation of the camera. Moving the camera and aim locator in the top, front & side viewports while watching the result in the camera viewport allows me to fine tune the composition.

10 Different choices of lighting Once all the cameras were set up to represent various compositions that I might use, I created three different lighting scenarios. This was accomplished by rotating the sunShape (the directional light) so that the sunlight was coming from different quadrants in the sky. The first was early morning, with the sun in front of and to the right of the front of the building. The second was late afternoon, with the sun in front and to the left. The third was late afternoon with the sun in the back and to the left. In each example, the sun was very low in the sky, so that it produced very long, sweeping shadows. From each camera I then rendered all three lighting scenarios.

© Imagine Publishing Ltd
No unauthorised copying or distribution

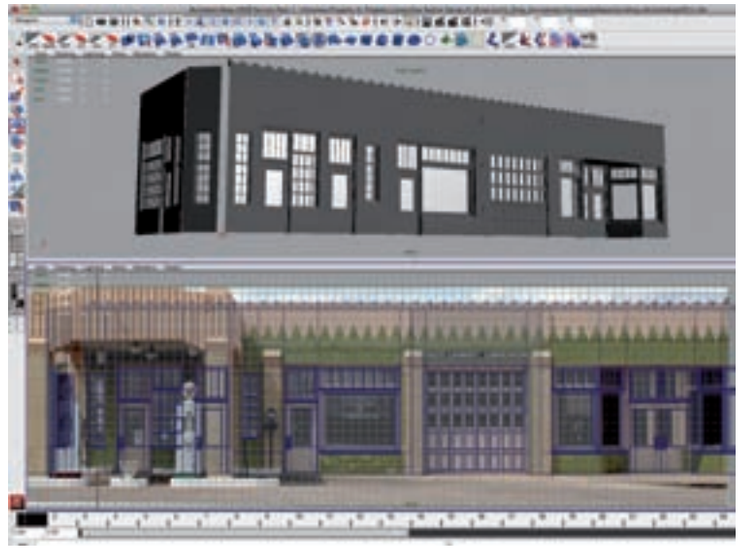
Building the station

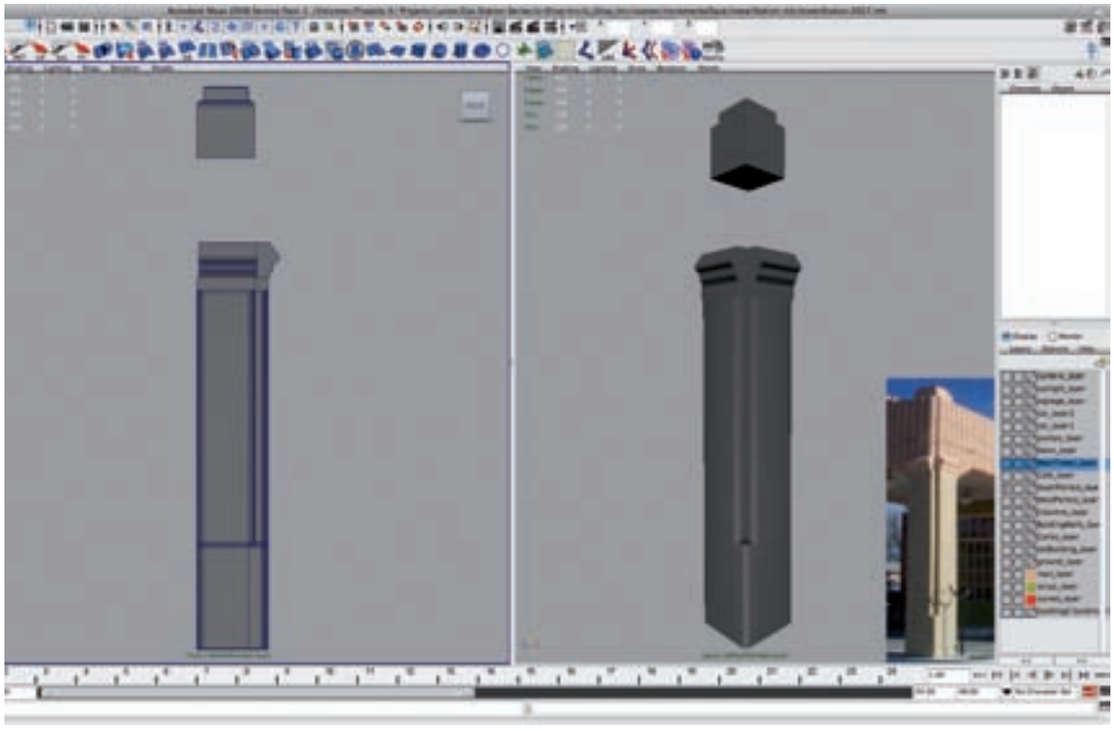
The real work begins

Modelling

Now that we've built and placed simple versions of the main objects and provided some basic lighting, it's time to pull some test renders to determine where to place the cameras and how to compose the scene. Although it's extremely satisfying to be able to see what our composition is going to look like, there's a much more important reason for setting up our cameras and determining the composition at this phase. Quite simply, we don't need to build detailed, models of anything that the camera can't see. By setting up the camera and doing test renders, we can save ourselves a lot of time by determining what needs to be

11 The real modelling job started with the main structure of the building: the walls, doors and windows. I built it up in panels, starting with the front wall of the main office. The walls were built from a poly plane, and the doors and windows from poly cubes.

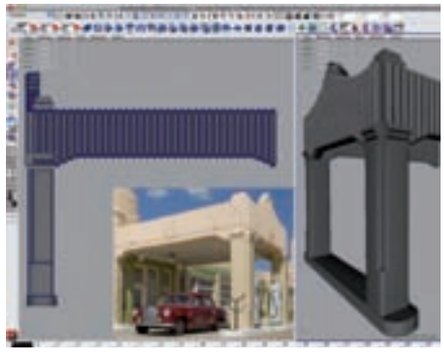




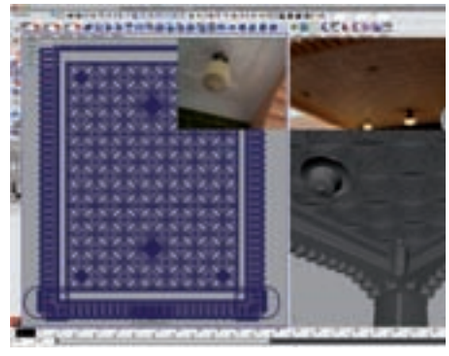
12 Once the first panel was finished, most of the rest of the building came together using duplicates of the various doors and windows from panel 1, adjusted to fit each panel. I was lucky to find a fairly hi-res photo of the front of the building, only slightly distorted from perspective. I fixed the distortion in Photoshop, and then used the image as a template for the front elevation.

13 Building the porticos, or the 'wings' where the pumps stood, started with the support columns. It's basically pretty easy, although the notches in the corners with the curved edges were a little tricky.

14 The marquee portion of the portico was also pretty easy. Once the first of the rounded, elongated shapes was built, the rest were duplicated using Edit> Duplicate Special, with distance equal to the width of the shape. I then adjusted the lower set of vertices to the proper length.



15 I was lucky to have a close-up photo of the ceiling of the portico. I started with one half of a quarter tile, mirrored that to get the full quarter, then duplicated those quarters to get the full tile. Next I duplicated the tiles to cover the ceiling and added the border to it. All that was left were the lamps that were hanging beneath the ceiling.

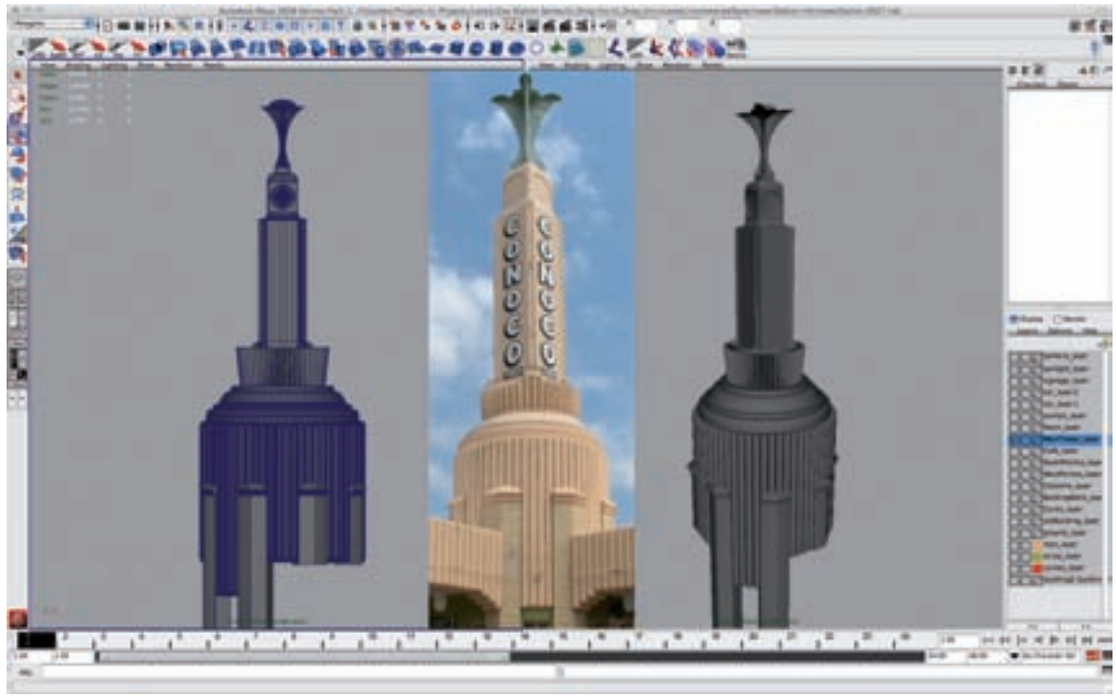


© Imagine Publishing Ltd
No unauthorised copying or distribution

Modelling continued

Working the tower into shape

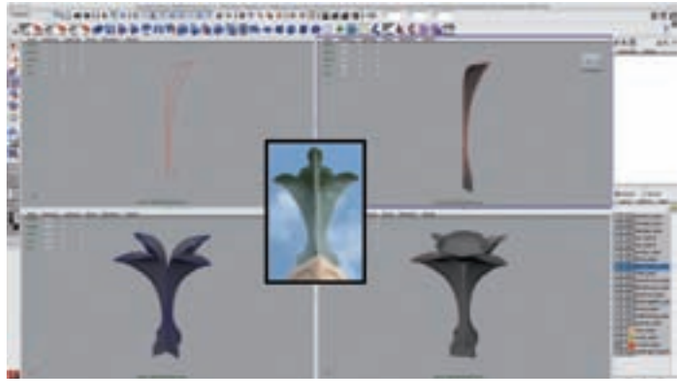
16 Using elements from the marquee and the support column of the portico, the bottom half of the main tower came together quickly. The next element was a revolved curve. Then a cube tweaked into a blade shape and duplicated in a circle about 50 times. The tall piece was box-modelled from a cube, and the piece above was another cube revolved with four segments.

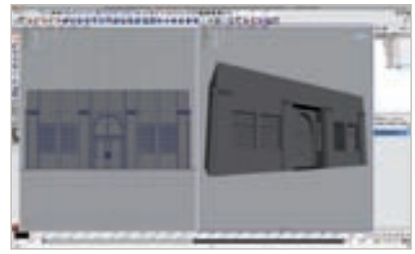


Create the curved surfaces

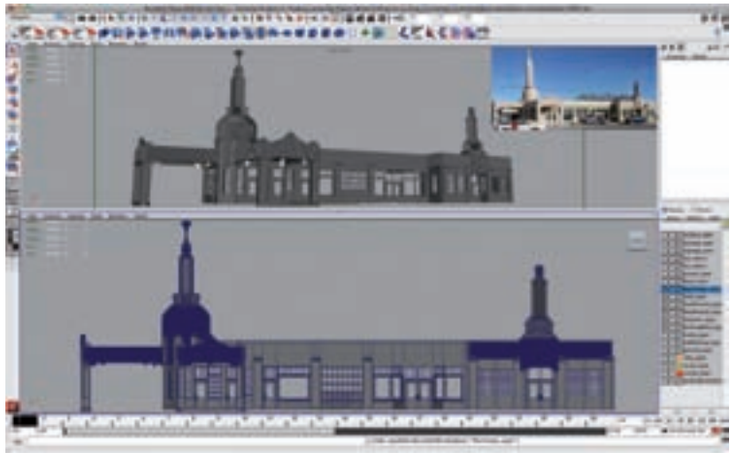
You can use the Bevel tool to create quick and easy curved surfaces. You need an edge to represent the centre of the curve. Bevel that edge, then remove the extraneous edges created by the Bevel.

17 For the cap, I began with the petal shapes. I created three curves and lofted them, then mirrored it across the X axis. I duplicated the combined pieces three more times with a 90-degree rotation. The top piece is a revolved curve with eight segments.

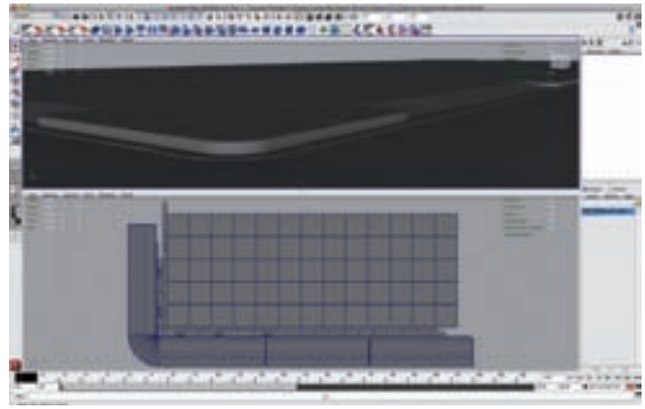




18 I had no decent photos of the front of the cafe. But having done the rest of the building, I had a good idea of the height and sizes of the doors and windows, so I was able to extrapolate and put the main structure together.



19 Most of the elements needed to complete the cafe tower already existed, either in the station tower or in the porticos. It was mostly a matter of duplicating and tweaking. With the completion of this step, the building was finished.



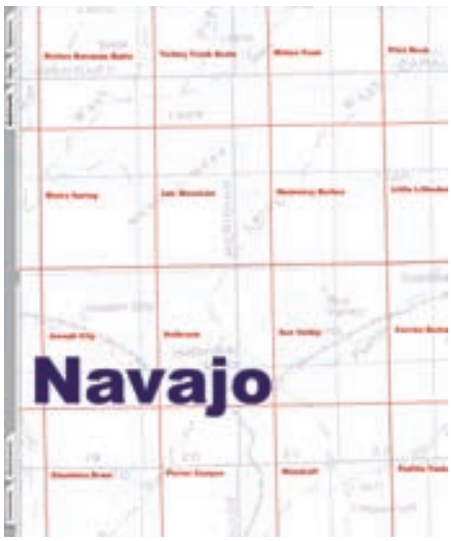
20 Most of the ground came from re-purposing meshes from a previous project. The scene from my Tot Rod image (see issue 1) contained a street, sidewalks, curbs, gutters and driveways, so I imported these meshes and reassembled them into the concrete surfaces that were needed for this scene.

© Imagine Publishing Ltd
No unauthorised copying or distribution

Create some desert hills

Add interest to the background

21 I wanted to include some desert hills in the background. The US Geological Service provides free digital elevation maps (DEM) of the entire US. Each map is called a quad, and you'll have to figure out which quads you'll need. For the US, you need to know the state and county of your location. In an internet browser, go to the USGS Quad Index (**www.usgsquads.com/mapfinder.html**). In the 'Map Finder for Adobe Reader' section, click on the 1:24k Search link, and download a PDF for the state you need.



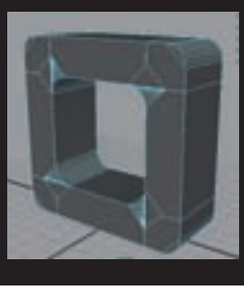
22 Next, you'll need to download all the DEMs that you'll need. Go to Geo Community (**http://data.geocomm.com/dem/demdownload.html**) and click on the appropriate state. On the next page, click on the appropriate county. On the county page, click on the link 'Digital Elevation Models (DEM) - 24K'. From there you'll be taken to a page that has links for all of the quads for that county.

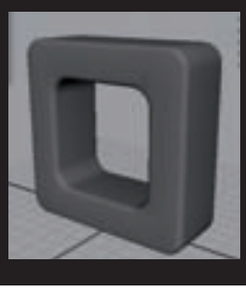
23 You need to convert the DEMs into .raw files to open them in Photoshop, so you'll need the PullSDTS app. Open PullSDTS, click Select File, navigate to your DEM folder and open the file ending in 'IDEN.DDF'. Click Load DEM to create a preview of the 16-bit B&W image. Click the Save RAW button, and set the options as you see here. For Range fill in the min and max elevations. PullSDTS will equalise DEMs to the same range scale.

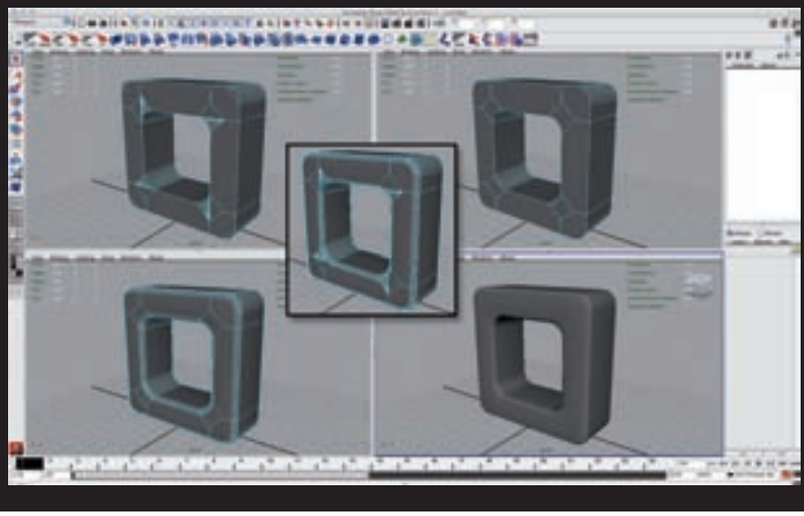
24 Open the RAW files in Photoshop. You'll need to input the image size in the Photoshop Raw Options box. When you save the .raw file, you will get a title something like: KachinaPoint_1157x1400_Mac.raw, which conveniently gives you the image size in pixels. If you're combining several images into a single map, use the Lighten blending mode on all layers to seamlessly fuse them together. Your final file needs to be a power of 2X (1024 x 1024, 2048 x 2048, etc). Save the file as a 16-bit TIFF.

More bevelling

When bevelling an edge that has already been bevelled, you can get quite unexpected and unsatisfactory results (check out the centre image). As in the first bevel tip on the previous page, you need to remove all the extraneous edges created by the first bevel, and then proceed to the second bevel.



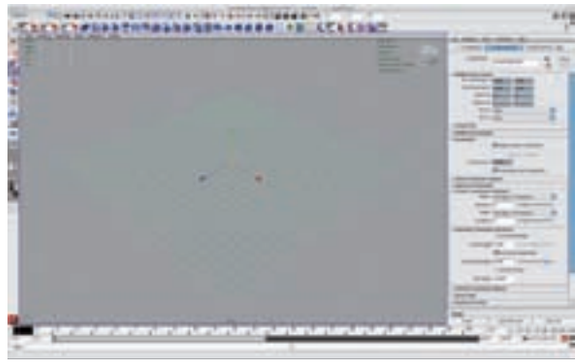


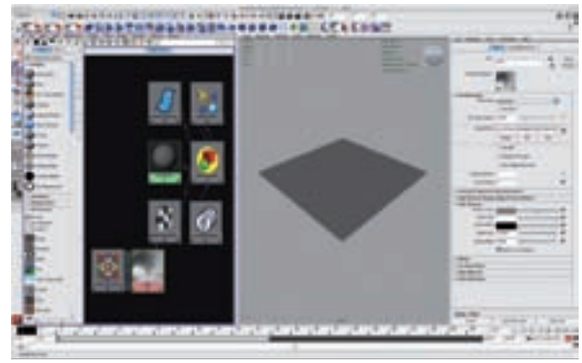


© Imagine Publishing Ltd
No unauthorised copying or distribution

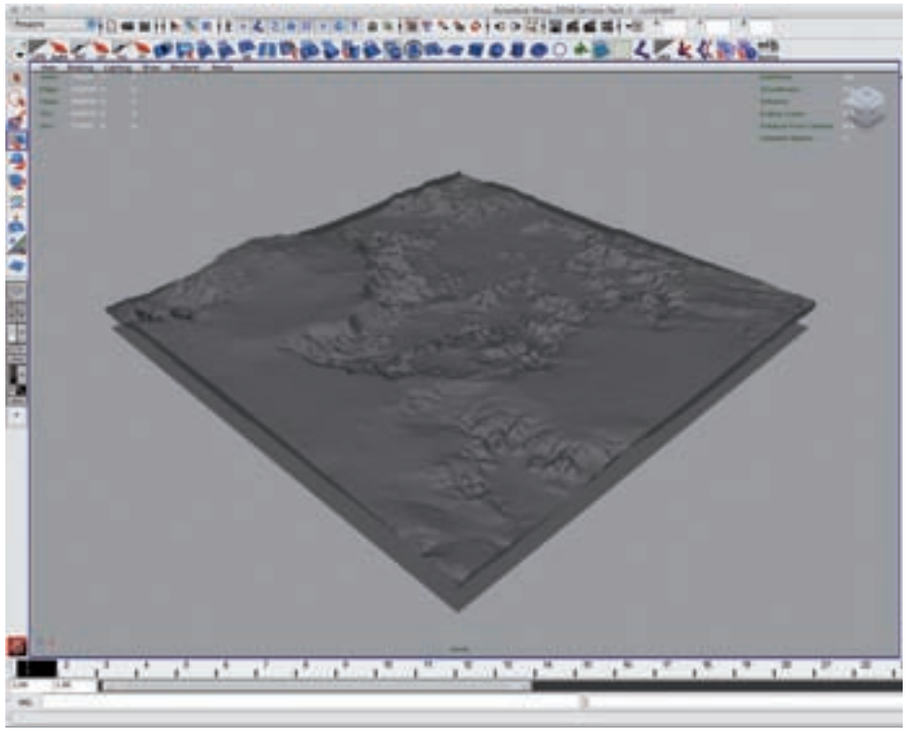
Creating terrains

Converting maps into surfaces





25 **Now we actually** create the terrain. Start with a 1x1 NURBS plane. Set the Scale of all three (X, Y & Z) axes to 10 per cent of your terrain map size. For example, if your map is 1024 x 1024, set the scale to 102.4.



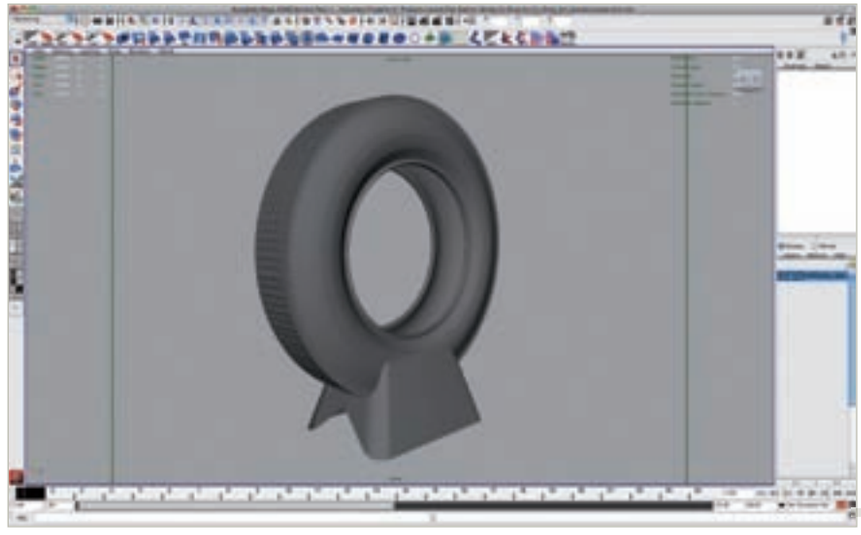
26 **With the plane** selected, open the MR Approximation Editor (Window>Rendering Editors>Mental Ray>Approximation Editor). In the Displacement Tessellation section, click the Create button to create a new displacement approximation node. Click the Edit button and select the Fine View High Quality preset. Now re-select the plane and in the Attribute Editor, under the Shape tab, open the Tessellation section. Check Display Render Tessellation and Enable Advanced Tessellation. Open the Advanced Tessellation section and set the number of spans to 5 for both U & V.

27 **Create a new** Lambert shader and assign it to the plane. In the Attribute Editor select the Lambert's Shader Group tab, click on the checkered box by the Displacement Mat slot to create a displacement node and load your terrain map into the file node. In the Attribute Editor, with the file node selected, the Alpha Gain controls how high the displacement is, and 1.0 seems to be a good place to start with terrain. With the plane selected, go to Modify>Convert>Displacement To Polygons. This will take a while, but when finished you'll have your terrain as a polygon mesh. If your machine can't handle the large number of polygons, reduce the number of spans in the Advanced Tessellation section.

Alternative landscape options

If the idea of turning map data into terrain seems like too much trouble then there are a couple of alternatives. One is using something like e-on's Vue to create a sandy plane and the other is to use a plane in Maya and apply a rocky material attribute to it. You'll want to incorporate it all into the scene at this stage rather than try compositing in Photoshop later.

28 **The last steps** in the modelling phase involved creating a number of props; smaller objects that will fill out the scene and help create a sense of realism. The first of these is tyre display. This tyre was another object that I already had, thanks to the Tot Rod project. I simply imported the mesh and built the small display stand. I built it as a flat surface, and then used the Bend Deformer to bend it round at the corner.

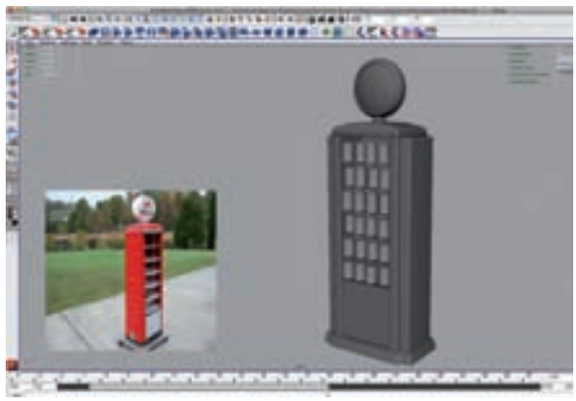


© Imagine Publishing Ltd
No unauthorised copying or distribution

Essential props

Adding the finishing touches

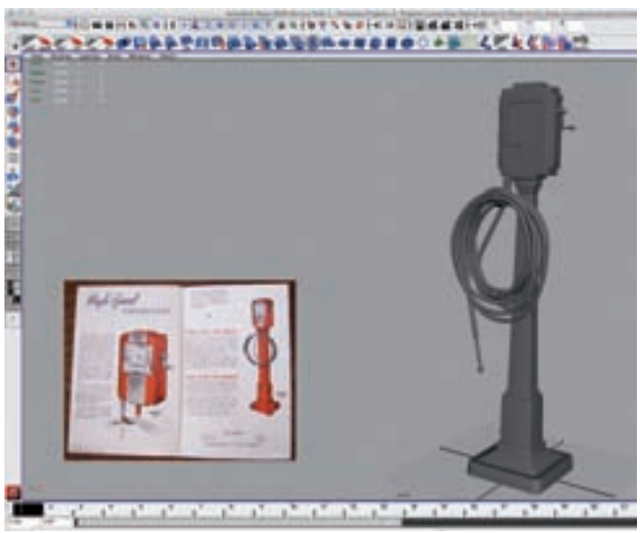
29 **I wanted a** display stand for cans of oil to go between the gas pumps. I used the model of the gas pumps to start, removed all of the pump hardware, made the basic shape shorter and wider, and then removed the front panel and added shelves. Once again, I re-purposed an existing model of an oil can.



Fun with objects

As well as the Art Deco style of the building, what really places this scene firmly into the 50s is the use of age-appropriate props like the soda dispenser and the style of the gas pumps and signs. To get a good feel for these you can do a Google image search for historial references. Once you've identified the type of props you want in the scene, either visit resource websites to download them, or spend some time creating your own. To help things along, there are a selection of objects on the cover disc including a gas pump, an oil can display and the soda dispenser itself. There's also a folder of textures to use.

30 **Every old gas** station had a soda dispenser, and I decided on the type with the lid on top. Almost the entire model was built using cube primitives with bevelled corners.



NEXT MONTH

Next month (issue 4), in the concluding part of Create a gas station diner, we'll build textures for all of the objects we've added here in this tutorial, bring in a couple of hi-res cars to add detail and interest, and we'll tweak the final lighting and shading arrangements. After some additional tweaking of the composition we'll be ready to render. We will set up several render passes, pull the renders and composite them in Photoshop.

31 **I also decided** to add an old tyre meter, which was used to add air to the tyres. I built this model from an old drawing rather than a photo. This was another model that was built almost entirely using primitive cubes. The hose was another model that I was able to re-use from the Tot Rod project.

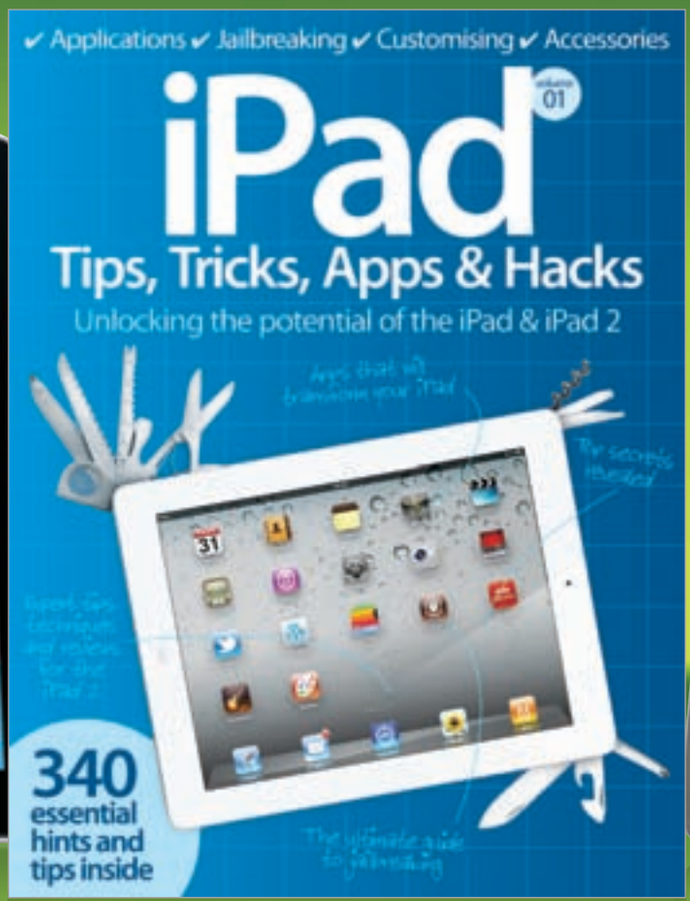
32 **I wanted to** add a bit of foliage behind the building to soften the landscape a bit. I used Paint Effects for this, choosing the Tree Meshes section in the visor. I used the Birch Tree, the Bush and the Shrub. Since I'm rendering in Mental Ray, which doesn't really support Paint Effects, I converted the foliage to meshes before I could render.

© Imagine Publishing Ltd
No unauthorised copying or distribution

We don't keep secrets

iPhone
Tips, Tricks, Apps & Hacks
The insider's guide to unlocking the potential of the iPhone
340
essential hints and tips inside

iPad



Printed full colour large format book

Kindle

Tips & Tricks™

Learn the truth about iPhone, iPad, Android, Photoshop and more with the Tips & Tricks series' expert advice and tutorials

Also in this series

Bookazines
eBooks • Apps
www.imaginebookshop.co.uk

Now available on

HIGH ST. BUY IN STORE — High street
amazon — Kindle Store
ip — ImagineShop.co.uk
App Store

Step by step: Create a spectacular space battle

The broken armistice over Abalakin 2005

Software used in this piece

3ds Max

Photoshop

On the Disc

final_scene_untextured.max
Wireframe setup of the main scene and some of the textures used to create the artwork.

© Imagine Publishing Ltd
No unauthorised copying or distribution

> The model of the battle cruiser took three weeks to finish and was one of the toughest models I had made to this point

Alexander Preuss is the lead concept artist for Egosoft GmbH

In this tutorial I will go over the process and the workflow that I used to create The Broken Armistice Over Abalakin, which I made for CGSociety's Grand Space Opera Challenge: Icons Of Galactic Civilization And Conflict (CG Challenge XVI).

This walkthrough will show beginners as well as advanced users some ideas and techniques that might be interesting for their own projects, as well as the work I did with different programs to achieve a perfect result for their own compositions and the combination of 3D and 2D elements.

The image was made with 3ds Max Version 7 and Photoshop CS, although this artwork is very simply constructed so I think a similar result could be achieved with an up-to-date version of almost any modelling and image-processing software.

The most important part of creating an artwork is the idea behind it, and hopefully this walkthrough will show you some hints that could make your work a little bit easier.

Step by step

Easy-to-follow guides take you from concept to the final render

Artist info

Alexander Preuss

3DArtistonline
Username Vampeta

Personal portfolio site
www.abalakin.de
http://vampeta.cgsociety.org

Country Germany

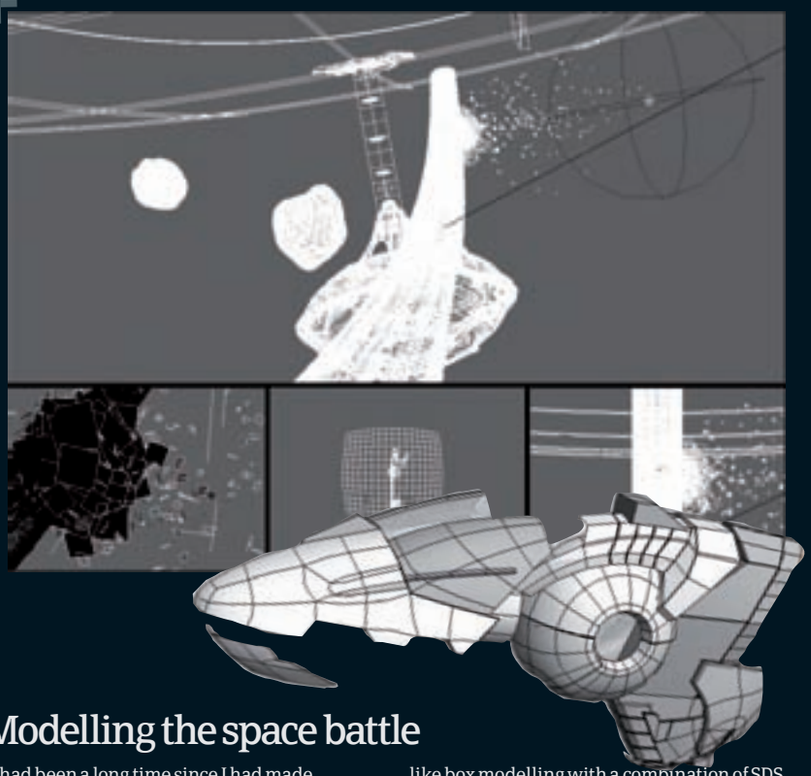
Software used 3ds Max and Photoshop

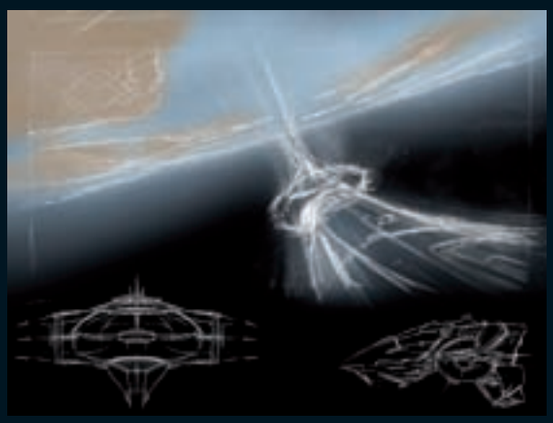
Expertise I specialise in classic science fiction and fantasy themes. I like this area, as it offers a huge amount of different possibilities.

© Imagine Publishing Ltd
No unauthorised copying or distribution

Concepts and design

Planning out the scene first





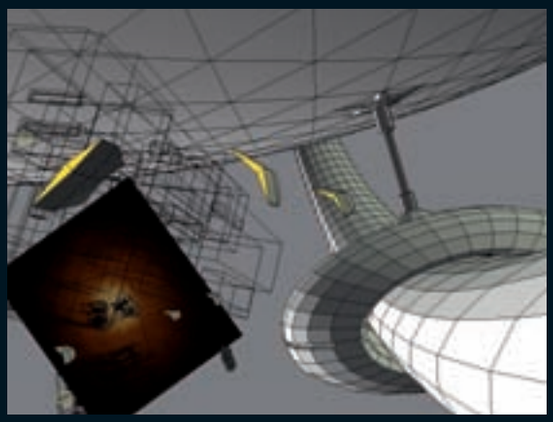
01 I had the idea of this image for a long time in my head, and the challenge from CGSociety was a perfect reason for me to finally do it! I painted the first rough concepts in Photoshop in order to have a good working base. Good concepts can help to speed up your modelling work as you have a defined goal.

Modelling the space battle

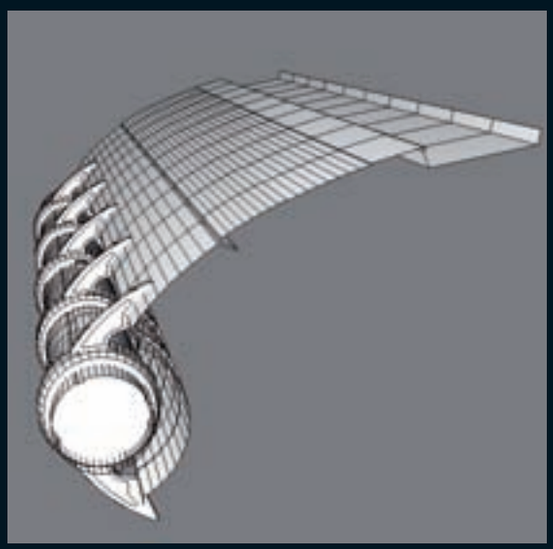
It had been a long time since I had made anything in 3D, so I needed a little warm-up time at the beginning. The hardest part for me was the model of the battle cruiser. Because of the complex form and all the little details that were needed to make this object believable in shape and size, I had absolutely no clue of the best way to start and achieve the final model. I tried different techniques over several days to create the basic shape, and during this process the look of the model radically changed. One of my earlier versions looked like a bad remake of Captain Nemo's Nautilus! I figured out that the best way was to combine different techniques, like box modelling with a combination of SDS modelling (subdivision surface modelling), hard surface modelling and nesting standard primitives like boxes, tubes and cylinders into each other.

The model of the battle cruiser took three weeks to finish and was one of the toughest models I had made up to this point.

Modelling the other objects was more comfortable because of the simpler geometry, with the exception of the challenging frigate. Thanks to the training I had with the cruiser and the ring, it was quite a bit easier to make this model, and it took only 20 hours to finish.



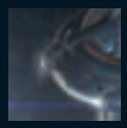
02 I started on some rough tests with simple modelling to find out the best way to create the image and all the details that were needed to make the image realistic. I decided that the best way was to model a small part of the whole ring, and then put them in an array with instanced bodies around the planet.



03 The base shape of the ring segment was extruded from a spline that I painted in Max. I modelled only one quarter of the complete body because the ring was going to have a symmetrical form. Modelling only one quarter saved me a lot of time. I used the Symmetry modifier later to complete the base shape.

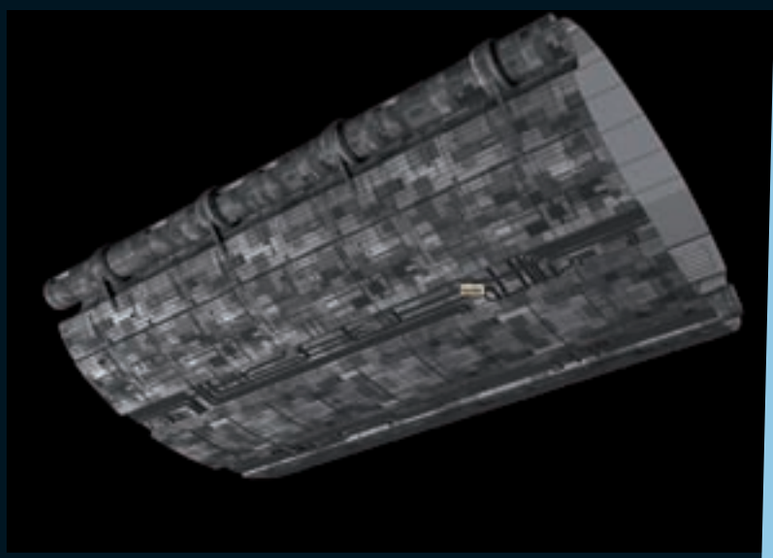
04 As I started to add details like tiny boxes and pipes on the surface, I was watching the growing poly count very carefully. I knew I had to place this segment at least 20 times in an array to achieve the smooth shape of the ring around the planet's surface, so I decided to keep the shape as simple as possible.

© Imagine Publishing Ltd
No unauthorised copying or distribution



Modelling elements

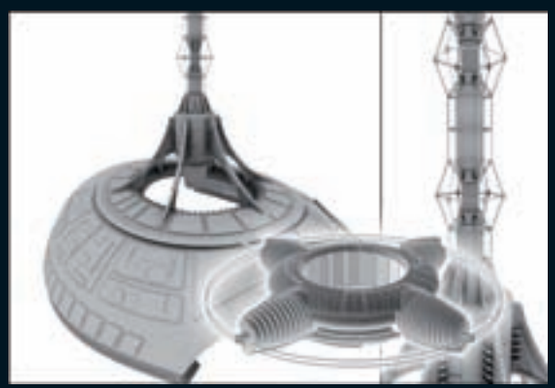
Creating the ring pieces and textures



05 Texturing the ring segment was done with a simple repeated pattern for the ground surface, including a Specular map, a Bump map, a Light map and a Dirt map on a second texture channel. The textures were created in Photoshop, using a wireframe shot of the surface elements.

06 The next step was the ring station, which was planned as one of the focal points of the image. I used box modelling to create the base structure of the surface and the MeshSmooth modifier to achieve the desired round shape.

07 After finishing the base shape, I started to refine the body (as previously done with the ring segment), and I also started to add tiny boxes and other details. The main difficulty at this stage was in creating the visual connection between the actual station and the previously finished ring segments.



08 Another problem was the physical connection between the ring and the planet. My idea was that six stations on the planet surface would hold the ring in orbit. I first wanted to make it a solid construction, but after a lot of critique in my WIP thread on CGSociety I decided to make it look more like a plasma beam that holds the ring in its orbit.

09 The next big part of the image was the planet. I used some satellite images from the NASA Earth Observatory site to create the surface. The modelling was the most relaxing part of the whole challenge – just three simple spheres. The city shape was created in 3ds Max and then used as a stamp to mask out the Specular and Bump maps.

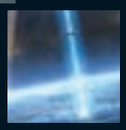
Lighting and rendering

The lighting setup for the scene was one of the more pleasant parts of the challenge. I used three Point lights for the whole scene. The sun in the left part of the background was a very bright white light with raytraced shadows. The second one was a very drab orange/brown light that was placed on the far-right side, and I placed a blue light in the centre of the planet to simulate some bouncing light from the planet surface. It took me about two days to find the right balance between these lights.

One of the problems that came up was to set up the correct render properties for some of the 3D models, like the plasma beam or the cloud layer of the planet. My first test renders showed up some huge dark artefacts on the planet surface.

The solution was to exclude the planet haze from shadow casting and to activate the Global Supersampling. Unfortunately, activating the Global Supersampling in 3ds Max with the Default Scanline Renderer raised my rendering time to Factor 4 for the background layer. It took approximately 10 hours to render the image at a 4,000 pixel resolution.

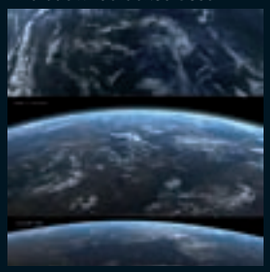
© Imagine Publishing Ltd
No unauthorised copying or distribution

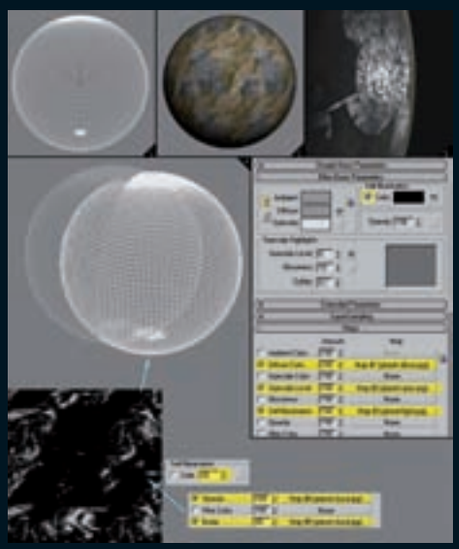


The finer details

It's time to make your art come alive

10 For the clouds I also used NASA satellite images. The material setup in this step was a bit more advanced. To avoid the clouds looking too bumpy and dirty, I faked some self-illumination with the Falloff shader into the Max material. I did some tests with more and less clouds to find out what looked best.





11 Finally, the atmosphere was set up with two spheres layered over the ground surface of the planet. The first one contained the cloud layer and the second one contained the haze, which was also realised with the Falloff shader and with Fresnel activated. The material was then set to an Additive Blend mode.

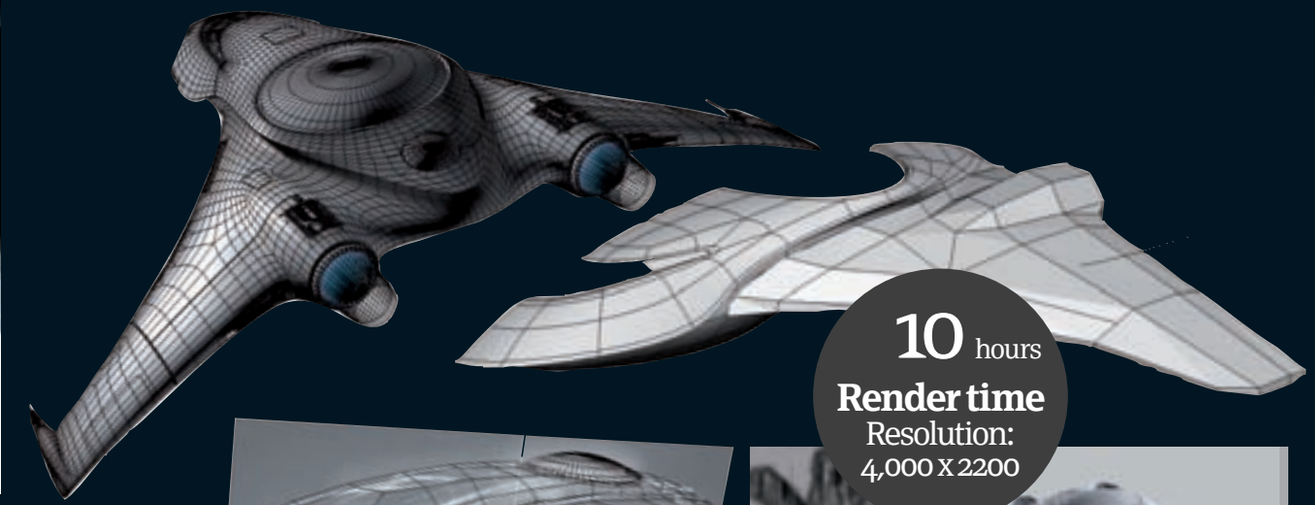
12 The enemy cruiser was the other main focal point in the foreground of the image. Again, I started to play with some test geometry to find a good camera position and lighting setup for the final artwork. In this early stage I wanted to add a lot more different ships, but I dropped most of them due to the very tough challenge deadline.

13 The model of the cruiser was done with box modelling and Subdivision Surfaces, using the MeshSmooth modifier. I also used different techniques for other parts of the ship, like the giant sphere in the centre and the engines. I wanted a very military look and had some photos of US Navy ships as a reference guide.

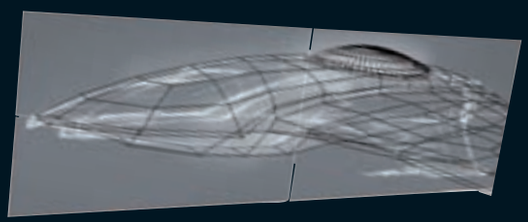
14 The UV layout was done with the Unwrap modifier. I exported the layout to Photoshop and used my Wacom Intuos tablet to paint the texture set, including Bump, Specular, Dirt, Light and Diffuse. I then used three different standard materials with different map channels and texture co-ordinates to texture the ship.

15 Near the end of the challenge, I realised that I needed another ship in the foreground to make the image more interesting. I wanted something smooth and elegant that would fit with the rest of the piece, and started with a very rough sketch on paper that I refined in Photoshop.

© Imagine Publishing Ltd
No unauthorised copying or distribution

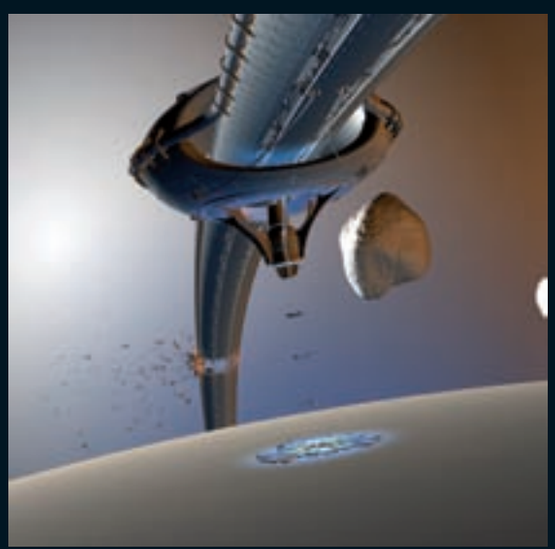


10 hours
Render time
Resolution:
4,000 x 2200

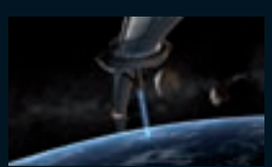


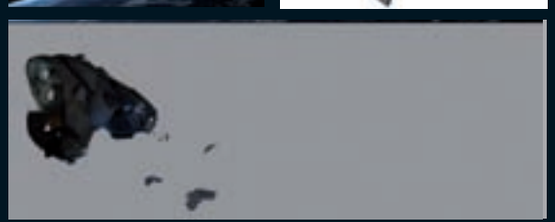
16 The base shape of the model was done again with simple box modelling. After getting the shape, I collapsed the stack and started to refine the body, cutting holes inside it and adding additional details. The Shell modifier was used on some areas to achieve a solid look of the mech.

17 At this stage I used raytraced material with Falloff and a texture setup with Diffuse, Bump and Specular, so the ship surface wouldn't look too clean. I used Illustrator to create the Bump map and Photoshop for the rest. The engine flares are made with a coloured fire texture and an additive material.



18 I used three Omni lights for the whole scene. The main light source is a very bright light, the second comes from the right side and is a bit drab, while the third one is a blue light in the centre of the planet to simulate bouncing light from the surface.





19 The final scene was rendered in three separated layers: the background layer with the planet, asteroids and the ring; the second layer with the cruiser and the smaller attack ships; and the foreground layer with the frigate. All layers were rendered with the Default Scanline Renderer from 3ds Max and took approximately 16 hours to render.

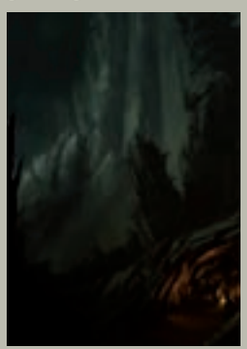
20 My final touches on the image were made with Photoshop CS. I placed the rendered elements on different layers and made some colour corrections and some additional glow effects, which are easier to paint than to set up in 3D.

Artist Showcase

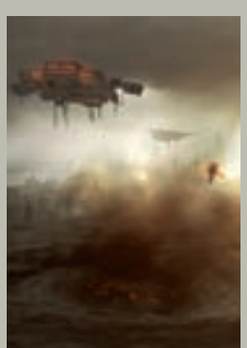
Alexander Preuss

In order to spend more time with my family, my working area is at home so they can see me whenever they want. I work at Egosoft GmbH where I'm employed as lead concept artist.

Abalakin2 **3ds Max (2007)** The continuation of The Broken Armistice. I wanted to show how the giant ring looked inside.



Stonetown **Photoshop (2009)** I am currently working on a new release from Gene Wolfe's The Book Of The New Sun. This is an illustration of the stone town.



Terran_conflict **Photoshop (2007)** This work was amatte paintings I made for the intro of the PC game *Terran Conflict*.

© Imagine Publishing Ltd
No unauthorised copying or distribution

I made this...

Incredible 3D artists take us behind their artwork

Artist info

Donat Somogyi

Personal portfolio site http://next.extra.hu/
Country Hungary
Software used 3ds Max 9, V-Ray, Photoshop

© Imagine Publishing Ltd
No unauthorised copying or distribution

Software used in this piece

3ds Max | V-Ray | Photoshop CS

"All models were created in 3ds Max using editable poly geometry – a simple and easy way to model. I used the most basic tools to modify the objects – for example, Extrude, Chamfer, (Target) Weld, Cut and so on. As previously mentioned I took some photos as reference images, but I also looked for other images to inspire me and to get some interesting ideas"

"The render settings were also easy and simple. After the render, I applied the necessary post-production. This gave the feeling to the picture"

Reforms in My Country 2008

Once when I was cycling through my town, I discovered an old agricultural factory. This abandoned place triggered my imagination – the massive structure on the top of the garage and the whole feeling of the place made me feel, quite simply, spellbound. I later returned to the scene and took some photographs.

"There were two lights in the scene: a V-Ray Dome light and a V-Ray Sphere light. I put an HDRI map into the Dome light"

No unauthorised copying or distribution

behind the scenes

3D artists explain the techniques behind their amazing artwork

Artist info

Christof Stanits

Personal portfolio site www.stan.at
Country Austria
Software used Maya 2008, Photoshop
Expertise Concept art, illustration, CG character creation

Modelling, rigging, rendering

Create a commercial 3D illustration

Blind Chicken 2008

"This poster is the key visual in the Blind Chicken campaign to advertise an online game to raise funds for an Austrian charity for the blind and visually impaired"

Christof Stanits on his work for the Hilfsgemeinschaft der Blinden und Sehschwachen Österreichs charity

A "Although I really enjoy doing digital art, I always go back to working traditionally," says Stanits

Software used in this piece

Maya Photoshop

This tutorial will tell you about the creation of the promotional poster for the Blind Chicken campaign, which was intended to raise awareness of the problems the blind have to suffer from obstacles in public spaces. Especially objects that cannot be made out with the cane, like low-hanging signs or unusual objects like at a construction site. These make dangerous obstacles for those with poor eyesight.

There's a whole campaign running, and this poster is the key visual.

01 Concept art

The first thing that needs doing is getting the concept right, using the guidelines given by the client's agency. The main character A as well as the background houses already existed, as they were part of the previously created short movie for the TV campaign. The poster had to grab the attention of viewers on first sight (visually through composition and emotionally through drama), give an insight of what the campaign is about and be humorous, despite the seriousness of the topic.

02 Client targets

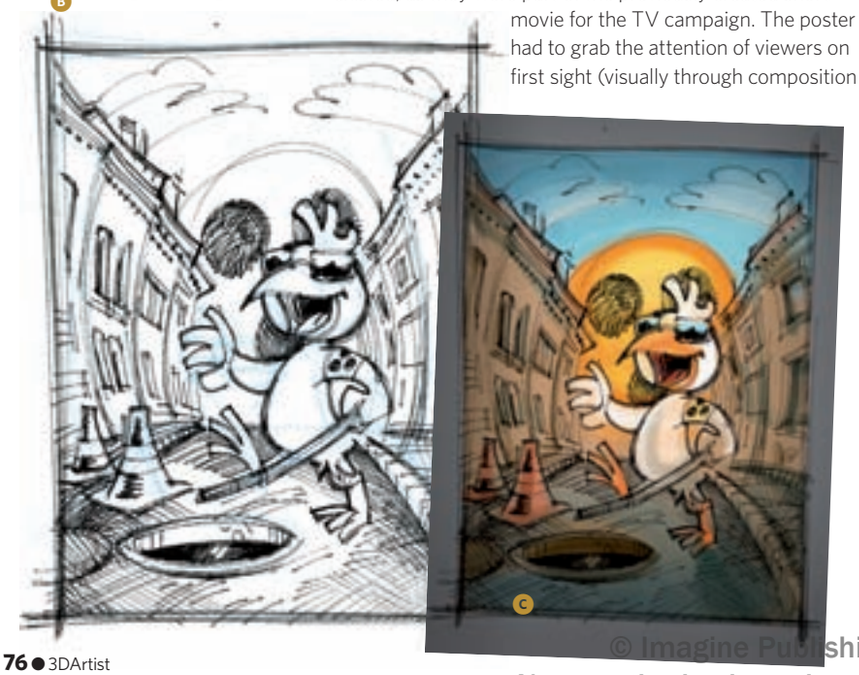
It's always a good idea to write down a list of the goals you have to achieve before starting thumbnails to rough out the concept. Keep the list short but complete. If you come up with an idea you like but it doesn't fulfil all of your goals, try to improve it or scrap it.

As this was a commissioned artwork, most of the guidelines were given by the client. You do have to stick to those, unless you come up with a better idea. But if so, you have to sell it to them in the concept phase B. Clients usually don't like to be surprised on deadline day. If you're working on a personal piece then you are more flexible, but don't forget about your concept. Generally speaking, in a good piece of art every part has to contribute to the main concept or otherwise be left out.

03 Thumbnail sketches

With all this in mind, start your thumbnails. If you come up with an idea right away, sketch it and try to play with it. Be quick with those thumbnails, as the most valuable asset you have got here is time, not paper C. Don't rush it, but if you're sitting at your desk and thinking about it for hours without getting ahead, start sketching and throw out ideas, even if you think they are not worth following, as most of the time

B



B Don't cram stuff into the concept art that distracts from the message you're trying to get across

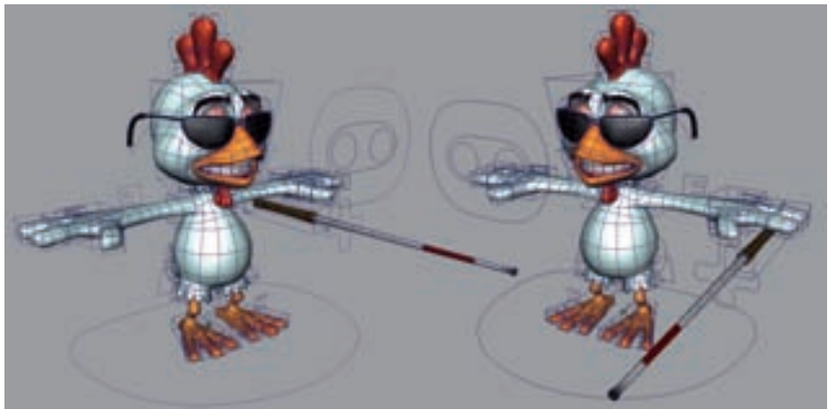
C Don't feel that you have to take on everything by yourself. Consult with others and get ideas from every place imaginable

© Imagine Publishing Ltd
No unauthorised copying or distribution

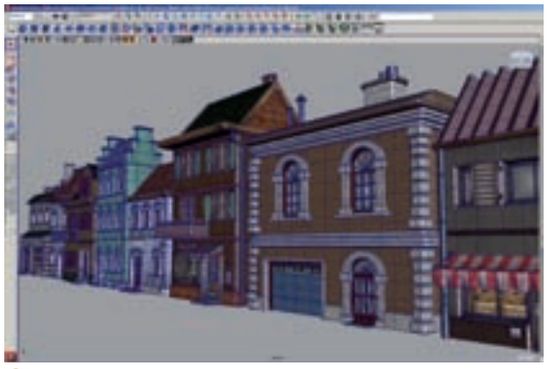
Comment on this piece
Register with us today at
3DArtist online .com
www.3dartistonline.com
to view the art and chat to the artist

“At Lemonaut Creations, we provide illustrations and animations for the advertising and entertainment industry”

© Imagine Publishing Ltd
No unauthorised use or duplication



D



F

A light matter

The only technical problem was the sun placed in the background. It was supposed to be a graphical element with the blind sign placed onto it, but this was scrapped and I had to deal with a real sun, which would outshine the whole image. I wanted to use the whiteness of the chicken to make it pop out of the image, so an object that was too bright directly behind it would spoil that effect. In the end, I simply decided not to go for realism and just composite the layers to a pleasing colour composition.

something will evolve out of it. If you can't get to a point where you're satisfied, consult with friends or co-workers. If you come up with an idea you like, consult them as well. Feedback is very important and most helpful in the concept phase, as a great concept is much more likely to save a bad execution than the other way round. Also, the more you like your concept and the more concrete it is, the easier and more fun it is to get the image done.

04 Modelling

The modelling of the chicken was done after a concept by Lemonaut co-founder Stefan Halegger. No big secrets here, as the modelling of cartoon characters is straightforward most of the time. Have all your separate parts line up nicely by using the same edge flow where they join up D. Try to get away with as few polygons as possible, but always think of providing enough vertices for a decent character setup. Most important of all is remembering to check your character's silhouette from all different angles in order to get a nice flow in form.

> Feedback is very important and helpful in the concept phase, as a great concept is much more likely to save a bad execution than the other way round

E

05 Rigging

The chicken uses a custom-made character setup allowing for squashing and stretching of the body and the limbs E. Even if they're not used in an animation, I tend to rig the characters rather than modelling them into a pose. Even with a very basic rig you do have more control. Also, if you are not sure about the pose you want to go with, you can store several poses on different frames and try out which one works best. If you are not into character setup, you should try one of the autorigging plug-ins that are available.

06 Background elements

The modelling of the background houses was pretty simple as well. We started out with loose hand-drawn concepts as rough guides and took it from there F. It is important to stick to the given style and to keep the modelling and texturing as efficient as possible. Don't place polygons or texture space where it's not necessary, as evenly spread detail on background elements is not only beneficial for the render times but also for the composition itself.

07 Curved background

It was important to evenly subdivide the houses' wall polygons, because each of the buildings was stuck into a lattice deformer to get that cartoonish look into them. All of the houses were then placed along a curve to provide the curved background necessary for the image. I was aided by co-workers Michi Brandstetter and Harald Oesterle with the modelling of the buildings.

08 Repetitive construction

Also, one repetitive street piece was constructed. The textures on this one are pretty high-res, as I knew from my concept that the street would be pretty close to the camera G. As a general rule, make your diffuse texture big but your bump bigger. For example, when using a 1,000 colour texture, I use a 2,000 bump texture for a good result.

G Think of creating repetitive pieces as saving time, allowing you to focus on other elements more

© Imagine Publishing Ltd
No unauthorised copying or distribution

09 Test render

With all the elements finished, a new scene was created where all the parts were combined for the final composition. The scene was lit with directional and point lights to create the basic light setup. I did some test renders by which I could judge the model and texture quality and see where improvements were necessary. Each night before I went home during the time creating the image, I started a test render in full resolution H so I had a new starting point in the morning from which I could plan my next steps.

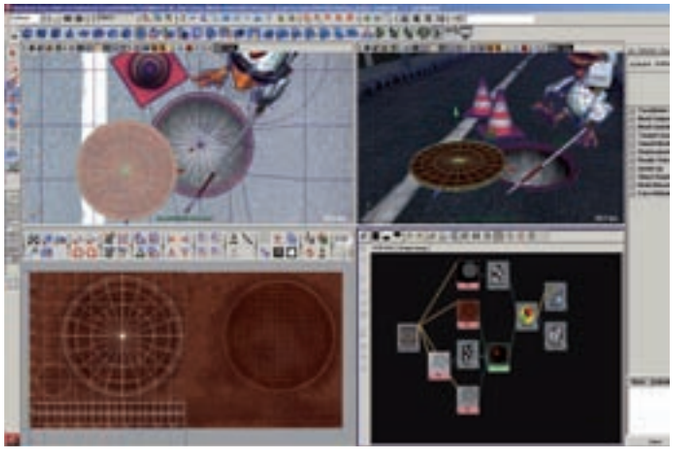
10 Displacement map

The manhole was first placed with only a cylinder stuck into the street to test its position. Once it was decided, a hole was punched into the street and the manhole was modelled directly in this scene I. The manhole cover is the only element that is using a Displacement map. It could have been modelled just as well, but I thought it would be quicker this way. The map was simply created in Photoshop using a black-and-white image.

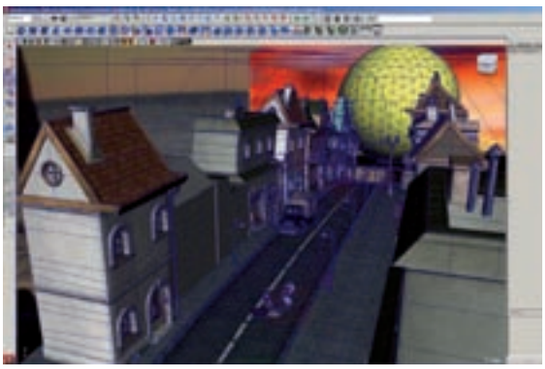
11 Final render

When all the basic elements were in place, I worked on the final render setup J. An environmental sphere was placed and mapped with an image to be used as a reflection. Be sure to choose an image that fits your colour scheme, as the elements seen on the image aren't that important. For instance, I was using a dawn beach scene. The light on this image was just right and no one realises it's actually palm trees that are reflecting in the windows. Be sure to turn off Primary Visibility and cast shadows on the sphere. Even if the sky was eventually placed in Photoshop, I added it to the scene on a plane in order to have it visible in the test renders right away.

H "I am running the company with partners Stefan Halegger and Michi Brandstetter. I got into CG as a digital artist at a games company ten years ago and have enjoyed it ever since," states Stanits



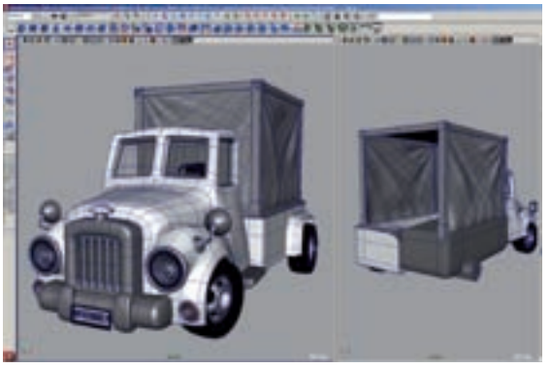
I



J

12 Background fillers

The test renders also revealed there wasn't enough going on in the background. The first thought was to place characters into the scene, but I soon realised this would raise new problems. When placing other chickens into the scene, the main character would lose some of his unique personality while humanoid characters would be somehow confusing K. So I decided to go with a truck, which wouldn't distract too much. As you can see, only the visible parts have been done and the truck was finished in less than two hours.



K

Lighting the scene

The final rendering started with each light in a separate render pass and one pass for the reflection with all lights turned off, but only the HDRI dome visible. The passes were rendered with Final Gathering on, so set the camera background colour to black to avoid extra brightness on each pass. Also, a Z-Buffer pass was rendered to add the depth-of-field effect in Photoshop.

Artist Showcase

Christof Stanits

I am currently working as the art director at Lemonaut Creations in Vienna, where we provide illustrations and animations for the advertising and entertainment industry.

Bipa Voodoo Dolls **Maya, ZBrush, Photoshop 2008**
This was a collaborative piece with co-worker Harald Oesterle. Created for an advergame, it represents different cliché characters that could be tortured

Skeletons, Snakes and Spirals **SketchBook 2009**
Drawn with markers in a sketchbook. I like to do images like this one from time to time to help me relax

Test Drive Unlimited Car **Maya, Photoshop 2006**
During my time in the games industry, I was creating a lot of real-time content. It was mostly character work, but I did some of the cars for *Test Drive Unlimited*

© Imagine Publishing Ltd
No unauthorised copying or distribution

3DArtist Your questions answered?

Have a question about the software you use? Thwarted by creative block? Contact us and we'll help you get back in your 3D groove

Need help fast? Join the The Advisors

Automotive
Lance Hitchings
www.hitchingsdesign.com

Lance is a guru on all things Maya-related. He's also the man to go to for car questions. This issue he's tackling the problem of getting muck and dirt onto your shiny metal surfaces

Game design
John Hayes
http://zugok.cgsociety.org/gallery/

John works on characters for games at Sega in California, so there's not much he doesn't know about detailing low-poly models. Want to add fabrics to game models? He'll show you how to do it

Creating textures

"I'd like to paint some grimy and grungy textures to use on the hard surface of a car model. How do I go about doing this, from creating the texture at a high enough resolution, to getting it on the car?"

Tomas Berger Bruges, Belgium working in Maya

Mud splatters and other forms of grunge can go a long way to creating a sense of realism in any render. The best way to apply mud to car paint is with a Layered Shader. The main problem is that we want the car paint to be shiny and reflective, and the mud or grunge to be matte and non-reflective. Although you might get there using complicated reflective and specular maps, the Layered Shader is a much easier way to apply these different types of materials to the same mesh, and it provides far more control.

01 Create the texture

Of course, to apply any type of texture, you need a decent UV map of your mesh. A Bring that into Photoshop and use it as a template to build your mud or grunge.

There are numerous ways to create mud or grunge. You can search the web for images of splattered mud etc, you can take your own photos or you can paint it in Photoshop. If you do a search for 'Photoshop grunge brushes', you'll find a large selection of free brushes to download that can create some wonderful grunge and splatter patterns.

I chose a photo of splattered mud for this example. The first step was to knock it out from the background and bring it into the texture file with the UV map template.

© Imagine Publishing Ltd
No unauthorised copying or distribution

growing community at www.3dartistonline.com

Characters
Lee Davies
http://leemale.cgsociety.org/

Lee works as a graphics artist in Dublin and is an expert at creating funky figures. In his spare time he creates celebrity caricature pics and here he answers your character-based Maya questions

Your guide
Duncan Evans
www.3dartistonline.com

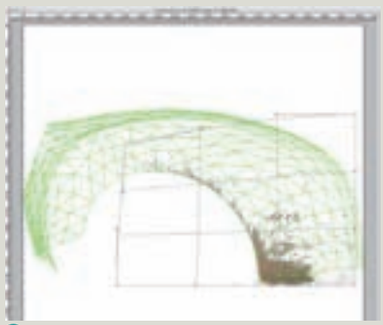
Duncan is your first point of call if you're suffering from a 3D niggle. As editor of the magazine, he can arrange to have your problems sorted out by talented and professional artists

Share your woes

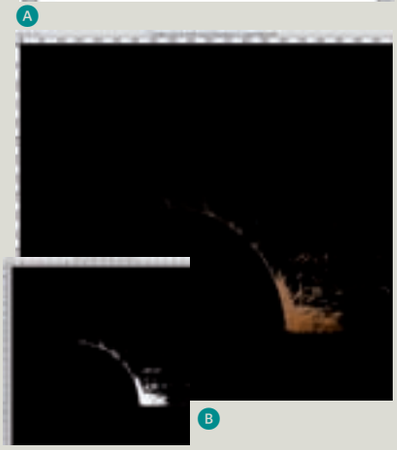
Send us your 3D glitches and we'll get them sorted. There are two methods to get in touch with our team of expert advisors...

Email the team directly with your problem
3dartist@imagine-publishing.co.uk

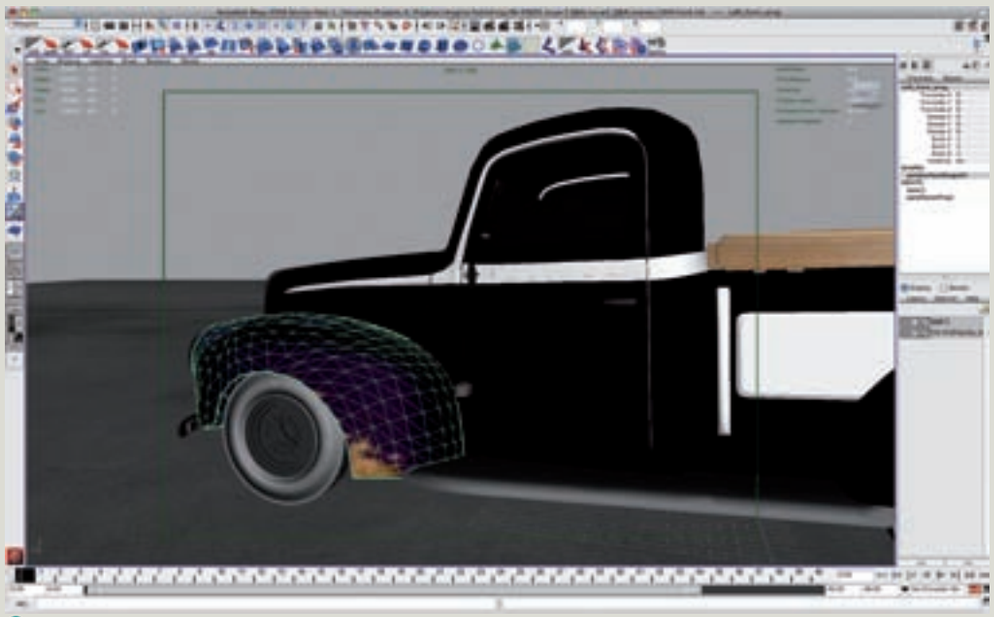
Post your worry on the Q&A section on our forum
www.3dartistonline.com/forum



A



B



D

C

I then used the Edit>Transform>Warp tool to reshape the mud splatter to fit the wheel well of my UV mesh.

02 Create the texture files

Next, you need to create a couple of texture files: a colour file that we'll plug into the Diffuse Color slot of our material, and a B&W mask that goes into the Transparency slot. For the colour map, I make the background the same colour as the car paint, which in this case is black B with dark purple highlights. That way, if any edge pixels get into the Shader, they'll disappear against the colour of the paint.

03 Build the shader network

Now it's time to build the shader network. I started with a Lambert for the mud and plugged the colour mud map into the Diffuse Color slot and the transparency mask into the Transparency slot.

One approach is to start with a mental ray Car Paint Phenomenon and plug your mud map into Dirt Color in the Dirt Parameters, but I've never got that to work very well so I use a Layered Shader. C

First I created the two materials for the car paint. I used a Ramp Shader for the base coat, with a sampleInfo node controlling the purple highlights. I used a transparent Blinn with very strong highlights as the top coat, and another sampleInfo node to create fresnel-like reflections.

Then I created a Layered Shader. In the Layered Shader, the left-most material is on top, so I loaded the 'Mud' Lambert first, the 'Top Coat' Blinn next and the 'Base Coat' Ramp Shader last. This gives me the Ramp Shader on the bottom providing the colour, the Blinn on top of that providing specular highlights and reflections, and the Lambert on top of that, giving me the mud and killing highlights and reflections. The transparency mask in the Lambert masks out everything except the mud, letting the car paint show through where needed.

04 Apply shader and render

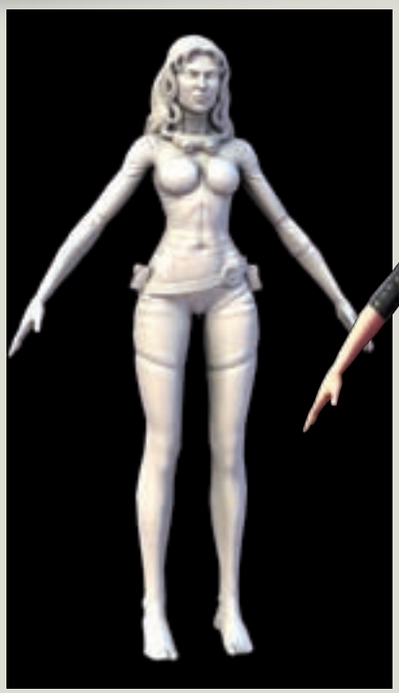
Finally, I applied the Layered Shader to the fender. Maya is inconsistent in displaying a Layered Shader accurately in the viewport in the Smooth Shaded mode, so you may not be clear on how it's coming together. D A render is the only way to know for sure.

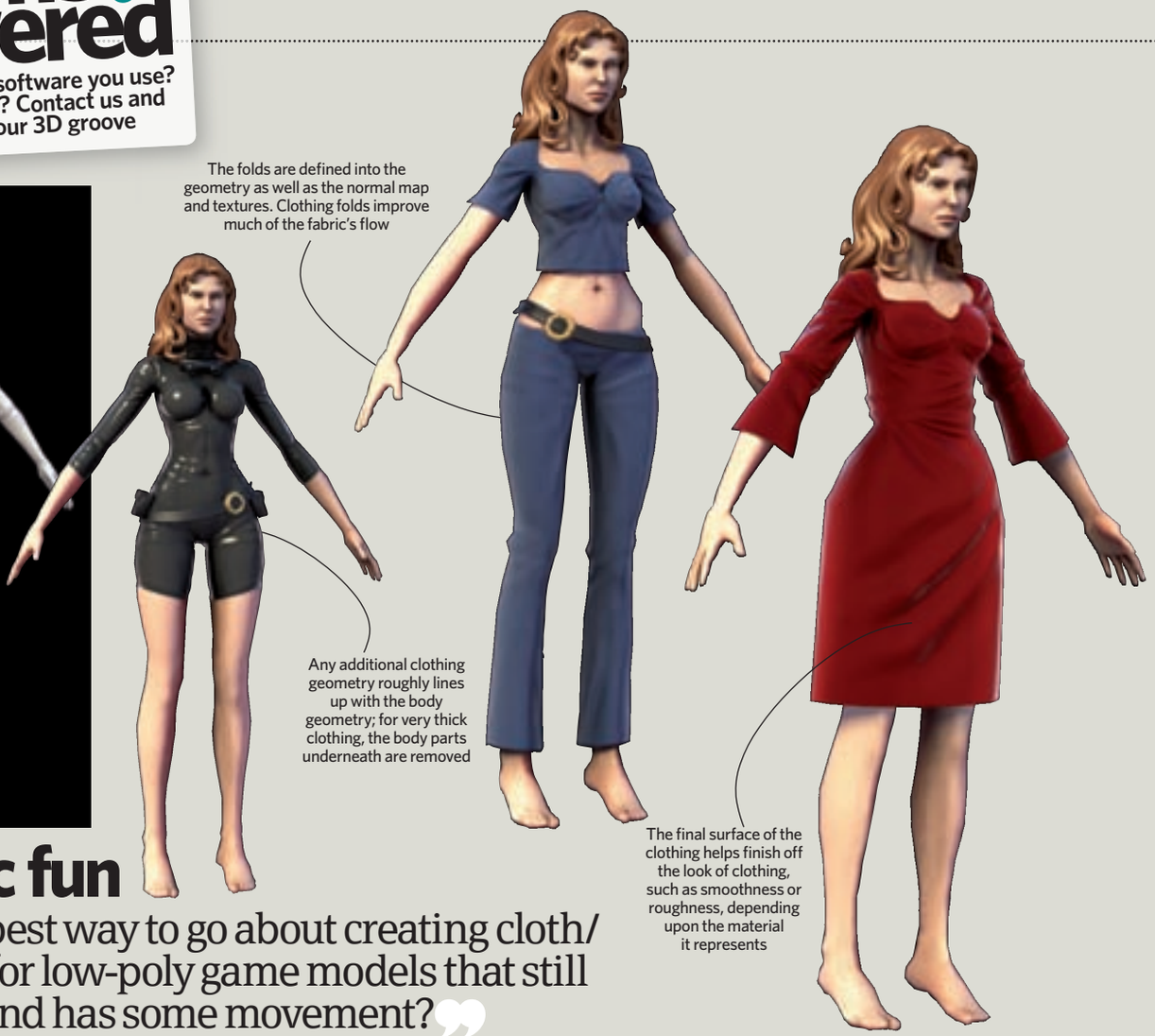
The consensus is that Layered Shaders don't work very well in mental ray, but I've never had much of a problem. You can't load mental ray materials into a Layered Shader, and Caustics & Global Illumination don't support Layered Shaders. But there's a great workaround for the mental ray materials. Plug the mental ray material into the Out Color slot of a Surface Shader, and plug the Surface Shader into the Layered Shader. The Surface Shader will inherit the attributes of the mental ray material and pass them on to the Layered Shader. You can use this for any Maya Shader network that doesn't support mental ray materials.

© Imagine Publishing Ltd
No unauthorised copying or distribution

3DArtist Your questions answered

Have a question about the software you use? Thwarted by creative block? Contact us and we'll help you get back in your 3D groove




The folds are defined into the geometry as well as the normal map and textures. Clothing folds improve much of the fabric's flow
Any additional clothing geometry roughly lines up with the body geometry; for very thick clothing, the body parts underneath are removed
The final surface of the clothing helps finish off the look of clothing, such as smoothness or roughness, depending upon the material it represents

Soft fabric fun

"What's the best way to go about creating cloth/fabric clothing for low-poly game models that still looks realistic and has some movement?"

James Cunningham Dundee, Scotland

01 Tight clothing
A nude base body is used as a template for clothing volume and form. Skin tight clothing details are mostly represented as texture, with volume added for accessories/edges. For very tight clothing, it might affect the body by compressing the surface on fatty or muscle areas. Line up compression detail with the body edge loops, then adjust the body to get a very tight effect.

02 Looser clothing
Using the base body as the template, looser clothing is created by using both the base geometry as well as including additional geometry. The silhouette and volume change is much greater, and the clothing material has a more marked effect on the shape and folds. Heavy and loose clothing hides the body silhouette much more.

03 Adding clothing folds
Using folds effectively to add flow to the clothing helps to complete the look of the clothing geometry. Folds should originate from the body where the joints are near the surface of the skin, as well as areas of flexing and compression. I prefer to define a few large major folds first and then add smaller folds if needed, to help refine the clothing.

A good way to simulate clothing on a character is to start with a nude body and add costume detail on top of it. With the body beneath, it's easier to get the fabric to look natural, as it would rest on the body. For tight clothing it's quicker to copy the covered body sections and add edges for the loose ends; for skin tight clothing you might need to only add surface wrinkles at joints etc. For looser/thicker clothing I like to define the whole volume and silhouette of the clothing sections. Each added-on part represents a part of the clothing, eg one for a shirt, another for pants.

When creating clothing on a nude, consider the silhouette – clothing should break up and add to the body shape. Areas that break up the form as well as help define the clothing are the sleeve and collar openings, the waist, belt or pants cuffs. For thicker fabric, model a few big folds at the knees, elbows and waist. Bear in mind that thin fabric usually has many small folds with sharp bends; thick fabric has fewer, larger folds with minimal creasing.

© Imagine Publishing Ltd
No unauthorised copying or distribution

Ageing skin

“Most skin textures I see are very young and line-free. How do I create a character that has a much older skin?”

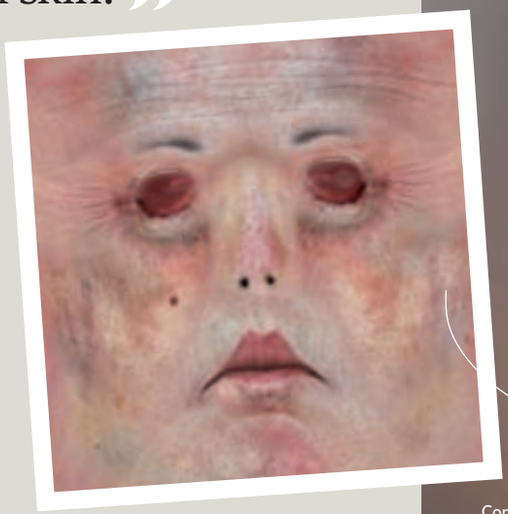
Fernando Gomes Austin, Texas

When modelling any character, regardless of age or appearance, it's vital to collect good reference material at the start, especially when trying to capture wrinkles and sagging skin. ZBrush has powerful tools that allow these to be created quickly and simply, but sometimes wrinkly models don't seem believable. This is often due to a lack of reference and understanding how such features move and change according to facial expression. Photographic reference was used extensively in our example. Images of Christopher Walken from every angle were vital in establishing the position of forms at the start of the modelling process. Jowls and folds were created by subdividing the head several times, masking edges and cavities, then extruding, moving and manipulating geometry to get the right look.

High-res photographic reference of skin was used during the texturing process. Firstly to create a colour map (combined with hand-painting in Photoshop), then adapted to create an alpha mask for further detailing in ZBrush. A sub-surface skin shader was then created, combining colour maps with bump and specular maps, and rendered using mental ray.

Sculpting wrinkles

Once basic forms are established, ZBrush allows the detailing of wrinkles with ease. Some default alphas and brushes can be very effective on their own in achieving bumpy skin effects, but one method allows the creation of fine, accurate wrinkle detailing that corresponds precisely with a colour map (photographic or otherwise). By modifying a high-res colour map (creating a greyscale version with increased contrast to emphasise wrinkles) and using the Mask By Alpha command, details can be brushed on, using standard and Inflate brushes to extrude geometry through the mask.



Converting a colour map for use as an alpha mask to allow precise wrinkle detail

Using textures

Photographic or hand-painted colour maps can be applied directly in ZBrush or via Photoshop using the Zapplink feature. To achieve effective skin, the surface should never appear uniform. Create a base of warm and cool tones by gradually building up layers (low opacity Scatter brushes are good for this). For older-looking skin especially, you can add

blemishes such as liver spots, capillaries, etc to further break up any uniformity.

Fine lines, pores and scales can be achieved through bump-mapping (ideally these should match the corresponding colour map). Pay attention to distribution of pores across the nose and jaw (less across smooth areas such as cheeks).

Getting the rendering right

When using mental ray for rendering, the SSS fast skin shader can really bring a character to life. It replicates the way light is scattered through layers below the outer surface of skin by allowing control over a wide variety of attributes. There are many good online tutorials that describe this in detail – but for older looking skin, consider accentuating translucency by mapping sub surface layers with further blemishes.

© Imagine Publishing Ltd
No unauthorised copying or distribution

Lightwave v9 £707

A staunchly independent 3D application with its own approach to just about everything comes under scrutiny

Lightwave can produce some stunning images, and it's faster than most of its competitors

Lightwave is a huge 3D application with a dedicated following. Since first bringing 3D into the mainstream with the effects for *Babylon 5*, Lightwave has ploughed its own furrow with an interface that looks nothing like any other Windows package, and a toolset that competes powerfully with the likes of Maya and Max. But can it hold its own in a world dominated by Autodesk?

Unlike other 3D apps, Lightwave is split into two packages – one for modelling and one for layout, rendering and animation. While this does lead to a fair bit of juggling back and forth as you add elements to your scene and work on models, it also means less clutter on the desktop.

Lightwave manages to give over virtually your whole monitor to workspace, with just a strip of menus down the left-hand side, a couple of buttons at the bottom for selecting Edit modes and a few tabs at the top. The left-hand menus change depending on the tab you select and package you're operating in. They can also be altered, allowing you to choose preset layouts depending on your needs. However, they're pretty quick to pick up, and you soon get to know where you can find what you're looking for.

Another of the idiosyncrasies of Newtek and Lightwave is that it doesn't progress in quite the same way as most packages. With most programs, you'll get version 8 followed by version 9, and if they fix a few bugs in the meantime you might get version 8.5. With Lightwave, there's not the slightest correlation between the version numbers and the extent of the upgrade.

Version 9.5 was a massive overhaul from 9.4. Version 9.6 is an upgrade but not a revolution. 9.7 might be a minor tweak or a totally new package – or they may just decide to call it 5.2 for a laugh. It makes no sense.

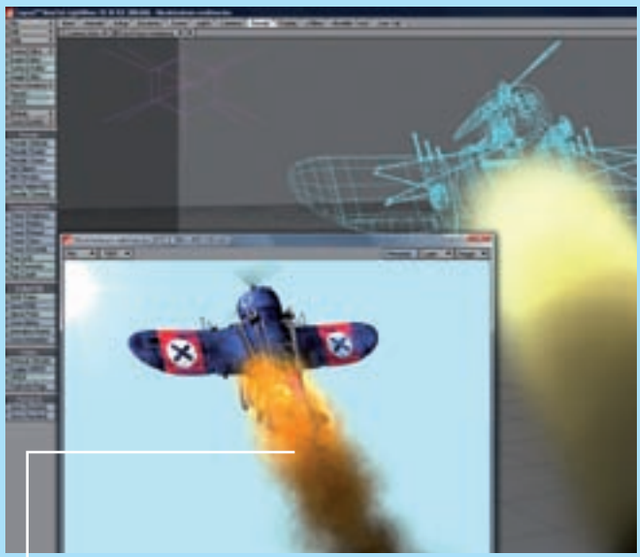
Lightwave does stand up to its competition in general terms. It contains everything you'd expect from a professional 3D application. It has fast, usable subdivision modelling tools (they could be more comprehensive, but they're up to the job). It has a raft of other modelling options, strong dynamics, IK and animation toolsets. There are powerful lighting, materials and rendering functions, and enough detailed control over everything to satisfy even the most demanding studio.

Over the last few upgrades, under a new programming team, Lightwave has really focused on rewriting the core code of the program to make it faster, stronger and more stable. Version 9.6 is really the culmination of that work.

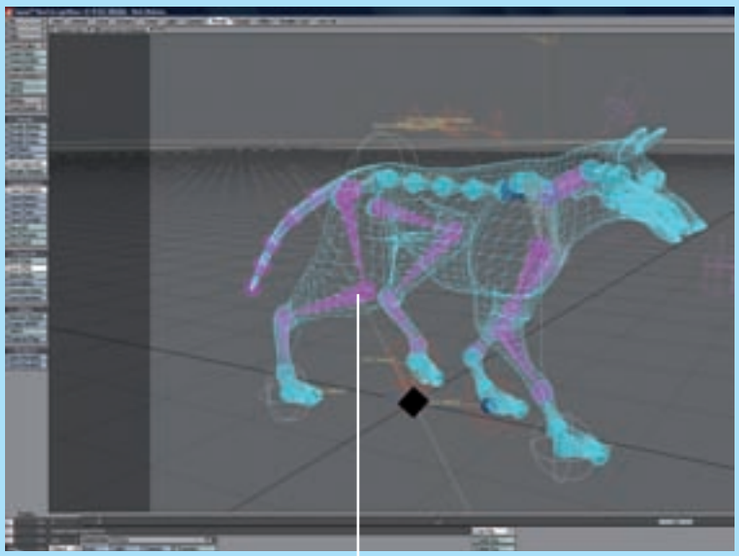
The render engine was rewritten a while back, but now the results of that rewrite have made their way fully into the UI, so rendering is much faster. However, you still need to know your way around the renderer before you can get the best out of it.

Optical rendering is the big news here, with the ability to mimic the properties of

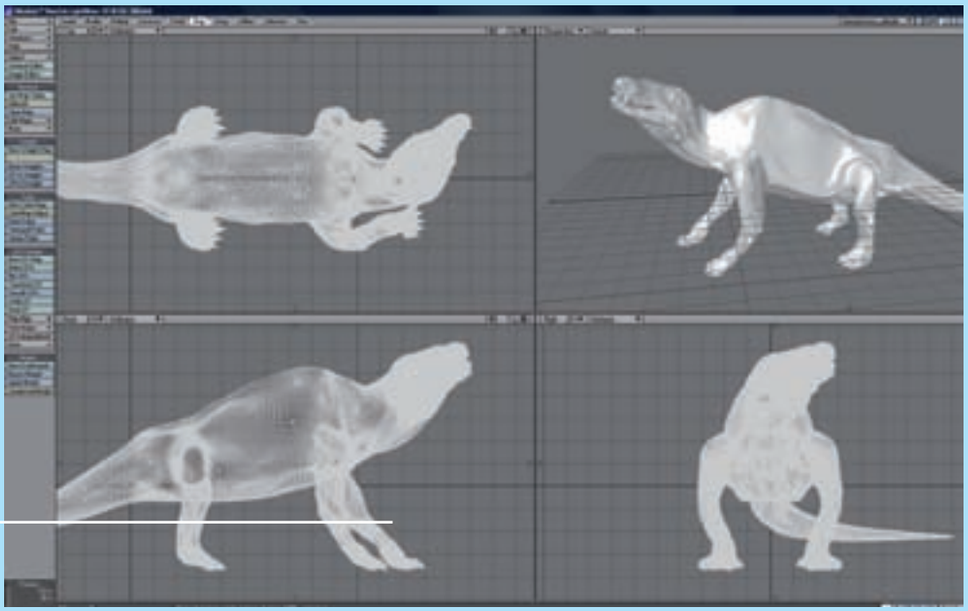
© Imagine Publishing Ltd
No unauthorised copying or distribution



Hypervoxels allow for realistic smoke and fire effects



The IK system enables the user to have fine control over their characters



Unusually, Lightwave's modelling and layout tools are divided into two separate packages

Essential info

www.newtek-europe.com

- **£707 (795 euros)**

OPTIMAL SYSTEM REQUIREMENTS

(PC)
- Windows XP, Windows Vista,
- 1GB RAM
- 128MB Video RAM

(MAC)
- Mac OS X 10.3.9 Panther
- Power PC G4

> "There is enough detailed control over everything to satisfy the most demanding studio"

any camera or lens. This is useful if you're hoping to match CGI with shot footage, and can also add an extra touch to pure CGI renders. Optical rendering also means motion blur and depth of field are part of the core of the renderer, so they don't cause the crippling render times you may be used to.

Photometric lights were introduced about a year ago, and have now been upgraded to give more accurate lighting if you're working with real-world scenes.

Lightwave's Dynamics and IK are both better than they used to be (although Maya still beats them in a straight fight) and the hypervoxels tools have been de-bugged.

Hypervoxels are one of Lightwave's most eye-catching tools – they're a simple method of modelling effects that are complex but transparent. Effects such as smoke and fire. By using hypervoxels you can create a cloud which is realistic in full 3D, and you can fly the camera around and through it (something you can't do with traditional opacity mapping). Lightwave's hypervoxels are easy to use (although they can be slow to render).

All in all, Lightwave is a strong contender and cheaper than its rivals, Max and Maya. It's unique in its layout and approach, and its manual seems to be designed to hide rather than highlight its features. However, it's not as tough to learn as this would suggest, and the power and range of its features is impressive

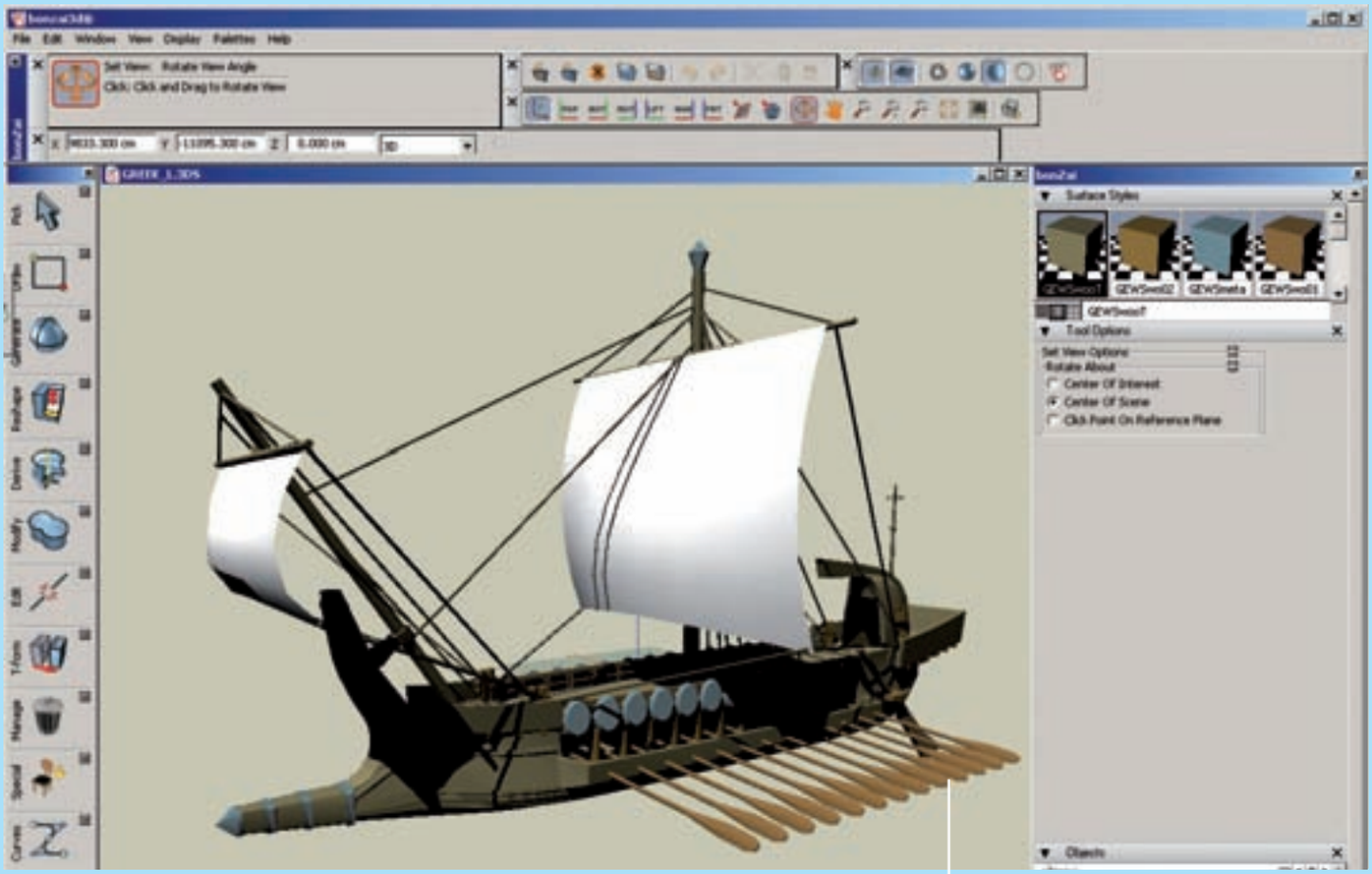
Our verdict

Features	8/10
Ease of use	7/10
Quality of results	9/10
Value for money	8/10

> "An underrated 3D application with its own unique way of doing things"

Final Score 8/10

© Imagine Publishing Ltd
No unauthorised copying or distribution



Bonzai3d allows you to view your models with basic shadows

Bonzai3d $500

This easy-to-use modeller makes fast work of man-made objects

Bonzai3d is a simple modelling program aimed at creating quick and easy 3D sketches. If you want to build objects for use in other 3D packages, it's a rapid and reliable way to do it. In terms of complexity, the package sits somewhere between Daz Studio and Carrara, but its style owes more to Google Sketchup.

Bonzai3d offers a robust toolset designed to make short work of most modelling jobs, along with an easy system for adding extra content and export options compatible with all the most popular 3D applications.

The interface becomes second nature pretty quickly. Icons at the top right allow you to navigate. Tools down the left-hand side let you create and manipulate objects, and palettes to the right give you detailed numerical control over your scene, tools and currently selected objects. It's all quick to learn and fairly self-explanatory.

You'll find that Bonzai3d offers a fast and reliable method of creating quick 3D sketches, with an easy-to-follow interface and strong toolset

You can also have more than one model open at the same time, and you can copy and paste models and elements between them, so it's easy to work on parts of a complex model in separate windows.

Bonzai3d's concentration on modelling means it can keep its toolset relatively simple and focus on making objects that are geometrically robust, so you don't have to spend a lot of time messing about with your model once you get it into your rendering package.

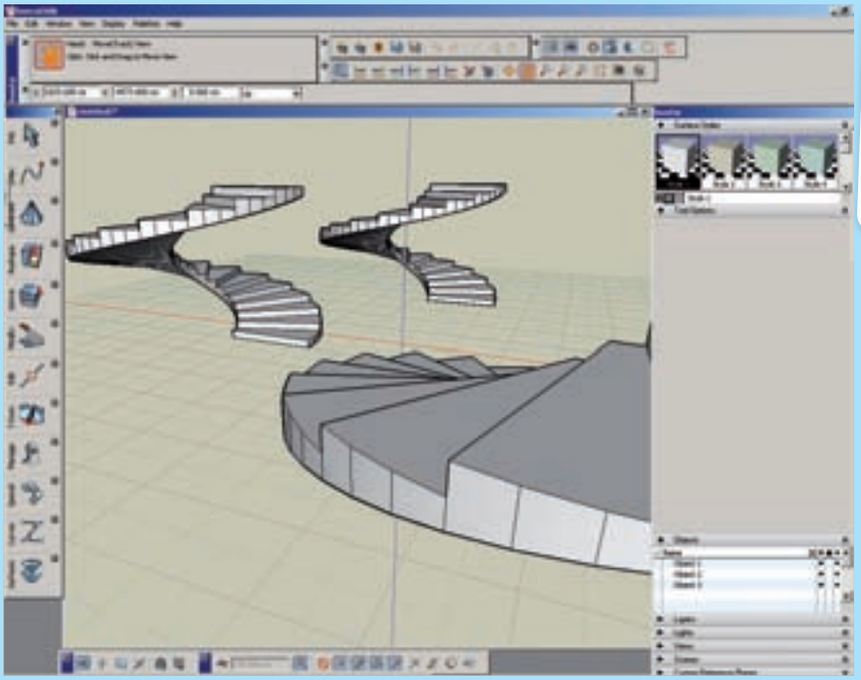
Drawing 3D shapes in 2D is surprisingly easy – just click to create a line, then drag to extrude it out into a 3D object. Manipulating objects once you've created them is simple too – just decide whether you're altering points, lines or faces and drag away. There are basic chamfer, taper and offsetting tools for creating detail, but not a huge amount of fine control over extruding, bevelling and adding new surfaces, edges and points.

Functions such as mirroring and Boolean operations allow you to carve and duplicate parts of your model, and basic nurbs tools along with pretty comprehensive curve drawing options are also included.

The Bonzai3d approach does succeed in making very clean models, but it's limiting if you're used to a full subdivision surfaces toolkit. You can create soft, organic shapes with Bonzai3d, but its tools do lend themselves more to man-made structures and straight lines.

The package contains instant tools for building roofs, stairs and windows, and 2D stylised figure and tree cutouts are available for sprinkling around your scene at a moment's notice. If you want more content, you can search and download additional models online from within the package. This

© Imagine Publishing Ltd
No unauthorised copying or distribution



The package offers one-click creation of stairs, 2D people and other architectural elements

The good & the bad

- ✓ Fast modelling
- ✓ Easy to pick up
- ✓ Strong range of import/export filetypes
- ✗ Relatively pricey
- ✗ Limited subdivision tools
- ✗ Limited UV mapping
- ✗ Viewport rendering could be more developed

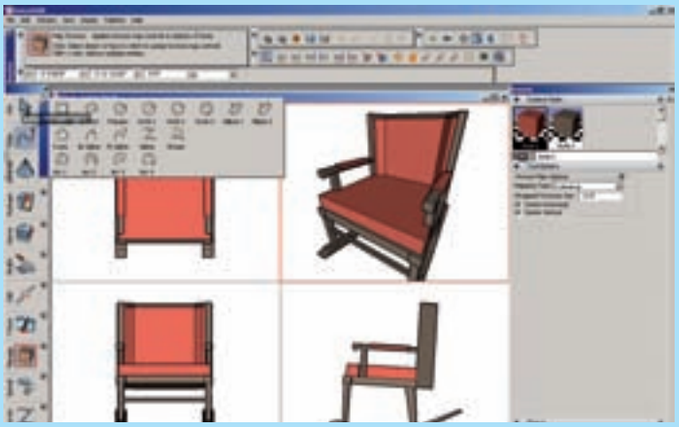
Essential info

www.bonzai3D.com
- $500

OPERATING SYSTEMS
- Windows Vista, OS X

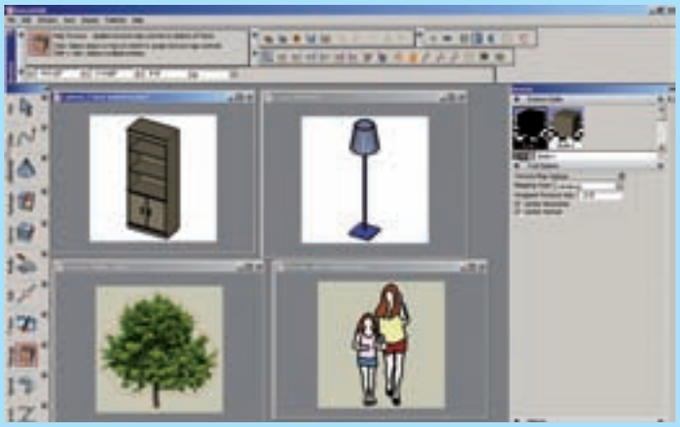
OPTIMAL SYSTEM REQUIREMENTS
- Not available

> "Bonzai3d is really aimed more at the architect than the artist"



Quick and easy

You can produce basic models very quickly with a combination of sketching and other modelling tools



Convenient copying

Having several files open at once allows you to copy and paste object elements between models

makes building a more complex scene a much quicker process.

Bonzai3d's focus on modelling means there are no animation tools and no rendering engine. You can display your work as a line drawing or add basic textures (image maps, but no bump or opacity mapping). Simple shadows are rendered so that you can see what you're working with as you model, but don't expect ZBrush-style previews.

All this means the product is absolutely dependent on its ability to swap models with other programs. It has 3ds Max, OBJ, DXF and Lightwave formats built in, and they all work very well. It's also able to produce STL files (for 3D printers) and a good range of other formats if you need them.

In short, Bonzai3d is a strong but simple modeller. It would make a good companion to, for example, Poser or Vue, but it's aimed more at the architect than the artist. If you've got a lot of buildings and machines to construct quickly, it's a worthwhile piece of kit to have around. If you're into 3D humans, there are better tools out there.

Bonzai3d is most suited to modelling geometric shapes rather than natural ones

Our verdict

Features	6/10
Ease of use	8/10
Quality of results	7/10
Value for money	6/10

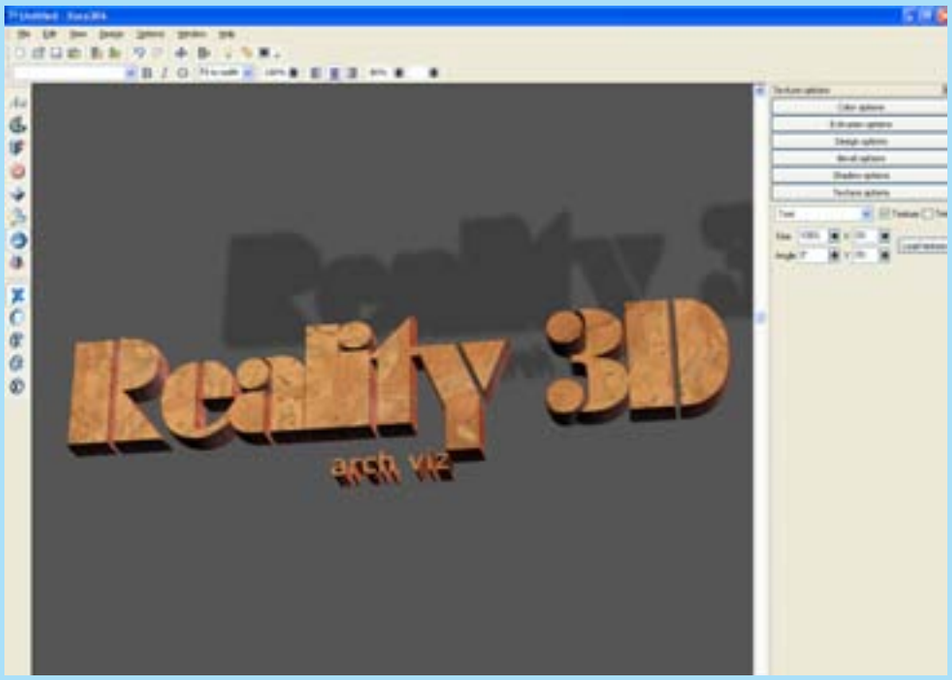
> "Easy and quick to pick up, but expensive and lacking in features"

Final Score 7/10

© Imagine Publishing Ltd
No unauthorised copying or distribution

Xara3D 6 $29

The easy way to create 3D text for use as logos, web banners, buttons and titles has just been made more affordable



There's a wide range of surface textures to add to the text – here's a wood-like finish

Arranging the position of the lights in three-dimensional space so they can shine through cut-out holes

Xara3D version 6 wasn't exactly expensive, but Xara has decided to come up with an even cheaper version. It's time for a download, sans CDs, box, manual and Webster CD, but saving you $20. If you still want the box copy it's there, but this is the no-frills option. Xara3D creates text headlines and logos in 3D, but does it instantly, in real-time, so any changes will show up instantly. It's also the easiest-to-use 3D app you've ever seen.

For example, there's text on the screen when you start. Just click on it to change it to your own lettering. It's also presented in one of the five styles available, so from this point it's just a case of tweaking and changing the presets to get the look you want.

Text options are at the top of the display window, allowing font choices, alignment, kerning and leading and size. The simplest option is to fit the text to the pre-defined object area. Down the left side are creative options for colour, extrusion, design, bevel, shadows, textures and animation. Selecting one brings up its options on the right side and activates the relevant tool, so aspects of the image can be edited in real-time.

The five display options are to present the text as is, to place it on a button, to make the button into a board so that text stands off it, to use a board and knocking the text out of it, and finally to use the text and the border from the board to go around it. This is rather like a house number sign. If this sounds good but limited, you're missing the bigger picture. The program has an inbuilt collection of shapes for the board design and can also import totally freeform shapes. There is a great collection of whacky designs to throw at the text, and they aren't constrained to the limits of the text – they can be any shape.

Now we did say this is 3D text, and indeed it is. Not only can the edges and depth of the text be tweaked, the entire logo can be rotated through 3D space, which impacts on the light. Yes, there are three lights that are equally movable, though limited in terms of power, but as they operate in 3D space as well, you can move a light around the back of the logo and get it to shine through the holes in it. This all happens in real-time, which is a very powerful and handy way of working.

Finally, text can be exported at your specified resolution in a variety of formats (but not PSD or TIFF). It can also be set up for animation, so the file formats for the web (GIF and Flash) can make use of it. There are presets for animation that get the text to jiggle around in a large number of ways.

Xara3D is a one-trick pony, but it does that trick so very well that if you need a still or animated logo for print or web, you'll be hard-pressed to find another package that does it better or faster.

Essential info

www.xara.com
● **Download**

OPTIMAL SYSTEMS
● Windows 98+

OPTIMAL SYSTEM REQUIREMENTS
● 1GHz CPU, 256MB RAM, 50MB HD space

> "There is a great collection of whacky designs to throw at the text"

Our verdict

Features	**6/10**
Ease of use	**9/10**
Quality of results	**7/10**
Value for money	**7/10**

> "Very easy to use, lots of options, some pretty impressive results but still a little limited"

Final Score 7/10

© Imagine Publishing Ltd
No unauthorised copying or distribution

DAZ3D Girl 4 $29.95-$99.95

There's a new girl on the block and she's ready for action

Say what you like about DAZ, the company is all about value. Here's the latest Unimesh figure to be released that works as an add-on to the Victoria 4.2 model for DAZ Studio. Victoria 4.2 is a free download, so you then have the choice of the Base pack at $29.95, the Starter pack at $49.95 or the Girl 4 Pro bundle at a more wallet-straining $99.95. Well, that's what regular folk have to cough up – because we've got the Base pack on our disc for you for free! And next month we'll have a pile of goodies to go with it, so you can all go Girl crazy.

So what's this character all about then? Well, one look at the figure should give you an idea that it's not realism that's the order of the day, it's curves and cleavage to the max, with over-large eyes and a cutesy expression. The install is pretty simple, going straight into your DAZ Studio content folder and then the figure is available in the DAZ People folder inside the program, though if it doesn't appear then do a search for content.

Of course it's not the figure that's the critical element here, it's the stuff you get with it. In the case of the Base pack that includes 15 poses, 15 expressions, Puppeteer presets, a Toon texture and one set of hair. The Starter pack really ramps things up with 30 additional poses, a make-up pack that can really differentiate your model, a couple of character variations, another hairstyle and two sexy outfits. For those with deep pockets, the Pro bundle offers pretty good value, with over $262 worth of stuff. There's everything from the Starter pack, another 30 hand poses and face poses each, a Long Toon Braids hairstyle, Caramella hairstyle, two new character variations and three sets of fantastic clothing outfits.

As usual, it's down to you what you make of this, but the figure is a light-hearted, full-figured model that's there to create sexy images. Load the base model on our disc and add elements you need.

Here she is stripped down to the basics. Add clothes and props and backgrounds, then pose away

www.daz3d.com

Our verdict

Features	7/10
Ease of use	8/10
Quality of results	7/10
Value for money	8/10

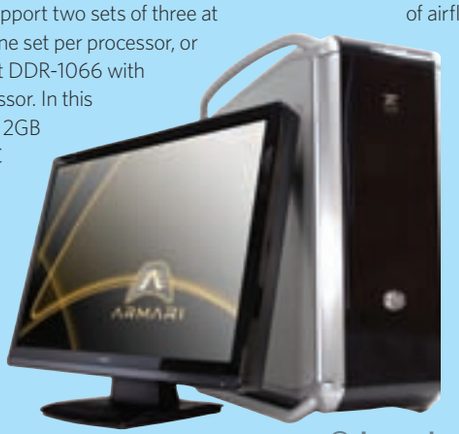
"Bringing sexy back to the world of inexpensive posing and rendering"

Final Score 7/10

Armari Magnetar NDX Workstation £3,214.25

Get a super-charged PC for your rendering needs

If you move into architectural visualisation or are knocking out renders for profit, time is money and investing in a dedicated workstation could pay dividends. That's what we have here from Armari, a dual-CPU motherboard with each CPU slot hosting an Intel Xeon E5530 2.4GHz Quad-core CPU. It supports DDR3 1066/1333 ECC memory with four sets of three DIMM slots for maximum efficiency. It can support two sets of three at DDR3-1333 with one set per processor, or four sets of three at DDR-1066 with two sets per processor. In this installation you get 2GB of DDR3-1333 ECC registered SDRAM which, considering you're paying over three grand and memory is cheap, is a little tardy.



The Armari Magnetar means serious business

You do get a fast PNY QuadroFX1800 PCI-Express graphics card with a handsome 768MB of on-board DDR3 RAM with a bandwidth of 38.4GB/sec and 64 CUDA processor cores. Plus it's OpenGL 3, DirectX10 and Shader Model 4.0 compliant.

The Samsung SATA-II hard drive offers 1TB (yes, a terabyte). There are two other features you need in a workstation, and that's a big chassis so there's plenty of airflow and a top-rated PSU. In the Magnetar you get one big case fan for sucking air in and three big ones for pumping warm air out. The PSU is rated at a wire-melting 1000W and it all runs quietly enough.

There's a clutch of USB, Firewire and Flash media inputs. The system runs Windows Vista Business 64-bit and has a year's on-site warranty and a second year RTB, parts and labour service. Workstations aren't cheap, but for rendering power allied to a relatively quiet machine, the Magnetar's worth consideration.

www.armari.com

Our verdict

Features	9/10
Ease of use	8/10
Quality of results	9/10
Value for money	6/10

"Plenty of processing bang for your buck, a fast pro-level graphics card, massive HD and a quiet performer too"

Final Score 8/10

© Imagine Publishing Ltd
No unauthorised copying or distribution

GREAT FOR BEGINNERS
With its potted guides to the basics of 3D design, game modelling and the products you'll be using, the book is ideal for beginners

Game Art Complete £34.99

An essential all-in-one guide to object-based game design for beginners

info

AUTHOR
● Andrew Gahan

PRICE
● £34.99

PUBLISHER
● Focal Press

ISBN NUMBER
● 978-0-24081147-5

If you only ever buy one book on designing 3D art for videogames, make it this one. *Game Art Complete* is exactly what it says. As the cover states, it will help you to learn "Maya, 3ds Max, ZBrush and Photoshop winning techniques." So if you want to succeed at three-dimensional game design, think of this as the tutorial level at the beginning.

Edited by Andrew Gahan, the book is broken down into sections based on both tools and particular effects. Some of these are written by Gahan, some by other experts in particular fields, and the tutorials have been collected from a number of specialist titles from the same publisher, Focal Press. Nonetheless, this isn't a simple rehashing of old content – *Game Art Complete* aims to be a potted guide to the essentials of 3D for games, and it fulfils this brief admirably.

The book kicks off with the simplest task of all – creating a plain box in Maya. From there, you'll move onto oil drums. You might think this sounds about as inspiring as week-old milk, but think of the shapes involved. The cube and the cylinder form the basis of many other shapes and many other objects – and anyway, think about the amount of boxes and oil drums you see in the average FPS game.

From there, it starts to get far more interesting. You'll learn how to create texture maps from photos and how to map objects in general. The book then diverts into the territory of concept art and refreshingly shows the build-up of a concept design from fairly lacklustre hand-drawn sketches into something much more polished. From concept art you'll then move on to creating accurate anatomy, useful for creating both realistic and deliberately unrealistic models.

It's only after this point that you hit the chapter entitled A Basic (Game) Art Education, and this looks at the fundamentals of more traditional art and design and how you can use and apply them. It's at this point that the book really starts getting to grips with more advanced software and techniques – up until now it has kept you in the nursery playground of basic object design and mapping. The rest of the chapters are heavily focused on Maya, but you will be able to find some great resources on modelling in ZBrush as well as combining Photoshop and 3ds Max.

FIGURES
Much of the more advanced content in *Game Art Complete* focuses on designing characters, both realistic and unrealistic as the broad spectrum of games incorporates both equally

TEXTURE MAPPING
Environment design is largely limited to creating texture maps rather than full-scale in-game worlds. Once you have mastered the art of these, you may become frustrated at not being able to test yourself further

START SMALL
A chapter on concept art starts with simple line drawings done by hand, reinforcing the need for good illustration skills. After all, most digital artists come from a background of traditional art

MAYA TECHNIQUES
A lot of the content in this book is based around Maya, but there are also tutorials for ZBrush, Photoshop and 3ds Max. As these are the key programs used in the industry, it gives the reader a great starting point

© Imagine Publishing Ltd
No unauthorised copying or distribution

Introducing Maya 2009 £26.99

A beginner's guide to using Autodesk Maya

This is Maya 2009. It's pleased to meet you. Yes, with a title like this, the subject matter and authorial stance of *Introducing Maya 2009* is completely obvious. That makes it another technical tome that's great for beginners just getting to grips with Autodesk's Maya software. It's published through Autodesk's own imprint at Sybex, so you can be confident that it has been created by someone who knows their way around the product.

Like *Game Art Complete* this is another slow burner, taking three chapters to introduce you to the concepts behind 3D design and the ideas that influenced the software before actually allowing you to get your hands dirty. This slow progression can be a bit frustrating if you want to dive straight into designing in Maya, but it's worth taking the time to read right the way through it.

info

AUTHOR
● Dariush Derakhshani

PRICE
● $39.99US

PUBLISHER
● Autodesk Maya Press/ Sybex

ISBN NUMBER
● 978-0-470-37237-1

INSPIRATION FOR BEGINNERS
The Beginner's Gallery showcases what is possible for beginners to produce with Maya after only a relatively short time

RENDERING TIPS
Introducing Maya 2009 is a slow starter but progresses through Maya techniques logically, ending with information on rendering and dynamics

SOURCE FILES
The accompanying disc is packed full of source files and projects for the reader to work through, helping them get to grips with the 3D program

Deconstructing the Elements with 3ds Max £29.99

Discover how to create earth, air, fire and water – without expensive plug-ins

The dramatic elements that make up both the real world and any number of imagined ones continue to fascinate 3D designers. Fire, wind, water, volcanoes and their ilk can provide stunning backdrops or help to create immersive, dramatic scenes in movies, animations and games. The aim of this book, now in its third edition, is to teach you how to produce effects like these in 3ds Max without using plug-ins. It jumps straight in there and teaches you how to make fire.

Other subjects include soap bubbles, ice and the surface of Mars. Tutorials are simple step-by-step affairs and each chapter ends on a 'Taking It Further' advisory, which suggests more ways for you to build on these effects.

info

AUTHOR
● Pete Draper

PRICE
● £29.99

PUBLISHER
● Focal Press

ISBN NUMBER
● 978-0-240-52126-8

SOLAR FLARE
The fire segment includes flames, sparks, afterburners and the surface of the sun

TRANSPARENT BUBBLES
Not all of the subjects covered are dramatic ones. This chapter looks at how to create soft, drifting soap bubbles – normally complex to create without the use of expensive plug-ins

ROCKY TEXTURES
Deconstructing the Elements with 3ds Max also looks at rocky textures such as planetary surfaces, as well as how to create the effect of weathering on mountains

© Imagine Publishing Ltd
No unauthorised copying or distribution

Advanced Photoshop®

The magazine for Adobe® Photoshop® professionals

FREE ON CD
£250
OF STOCK IMAGES
PLUS: 5 CS4 VIDEO TIPS

Issue 57 includes:

- Head-to-head masterclass
- Photoshop cutout techniques
- Edit video in CS3/CS4 Extended
- Retouching architectural images
- In-depth feature on retro graphics
- £250 worth of stock imagery on the CD

ON SALE NOW!

www.advancedphotoshop.co.uk

Every issue includes • Free CD • Insightful interviews • Skilful tutorials • Latest products reviewed And much more…

To order your copy or set up a subscription online visit www.imagineshop.co.uk

No unauthorised copying or distribution

INDUSTRY ● EDUCATION ● RECRUITMENT ● CAREERS

workspace 3D

Inside guide to industry news, studios, expert opinion and education

100 Insider interview

Daren Horley

Each issue we quiz an industry pro on how they got to be where they are today. This month, the lead texture and matte painter at Framestore is in the hot seat

094 News

Industry news

All the software releases and updates, events and prize-giving news from around the 3D world

096 Behind the scenes

Lionhead Studios

The people who brought you *Fable II* and expansion content *Knothole Island* explain how they went about creating the sumptuous graphics for the game

inside

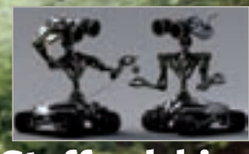
> "No mixing messy paint, no cleaning a clogged airbrush or cutting masking film with a scalpel. An Undo button, brilliant!"

Daren Horley, lead texture artist at Framestore on moving to Photoshop from traditional media. **Page 100**

Little Runaway Princess
Jack Zhang
Personal portfolio site
http://jackzhang.cgsociety.org/gallery/

STAFFORDSHIRE UNIVERSITY

103 Uni Focus

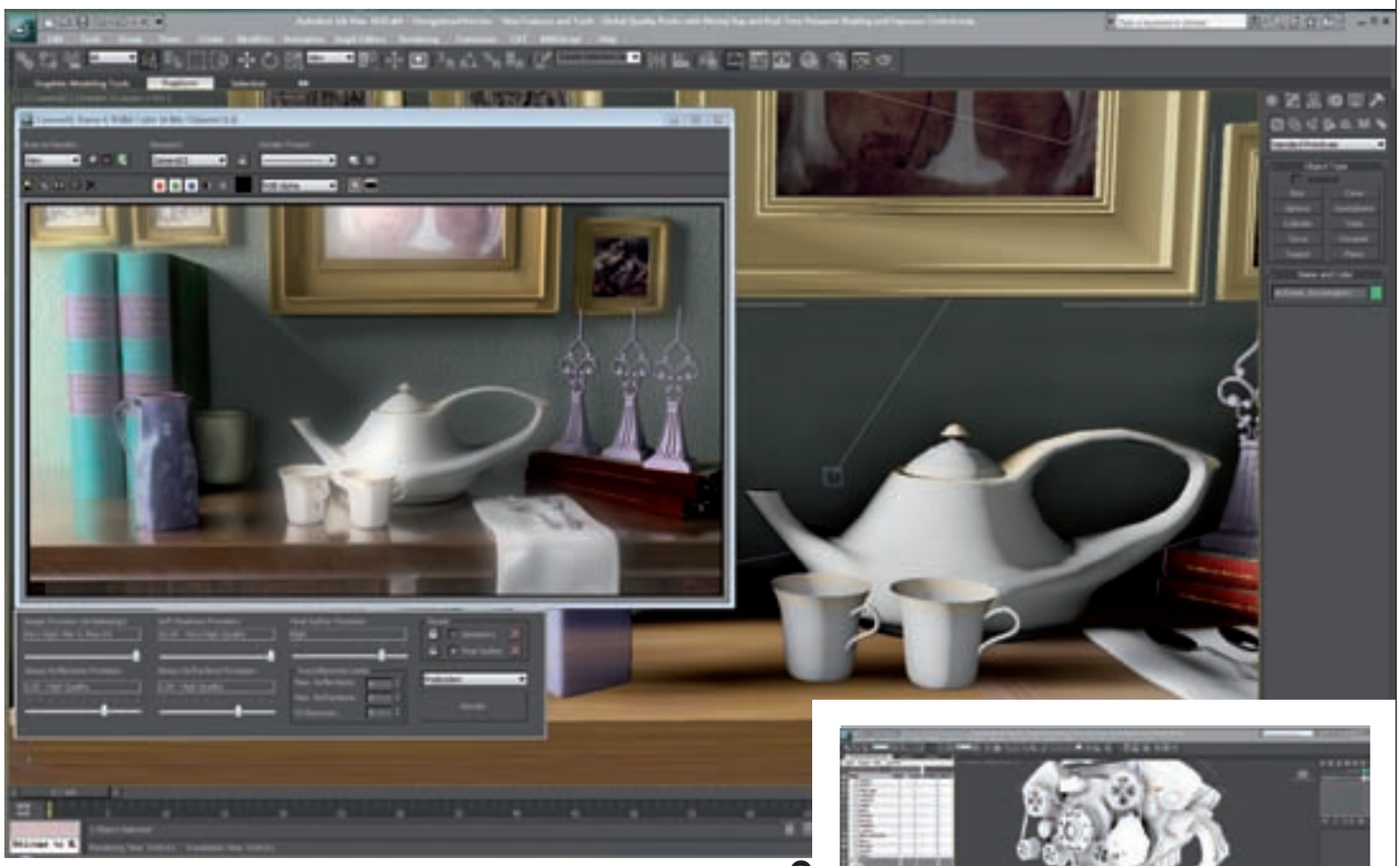


Staffordshire University

Come to the Potteries to see the BSc (Hons) Digital Film and 3D Animation Technology course. It delivers a wide range of topics, using industry-standard technologies

To advertise in workspace please contact Cassie Gilbert on 01202 586421 or cassandra.gilbert@imagine-publishing.co.uk

© Imagine Publishing Ltd
No unauthorised copying or distribution



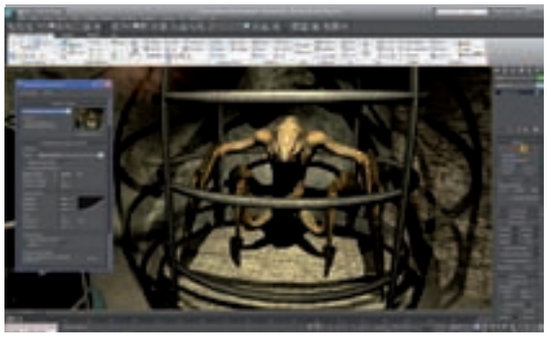
B

Autodesk unveils new application

New 3D software will provide ultimate gaming experience

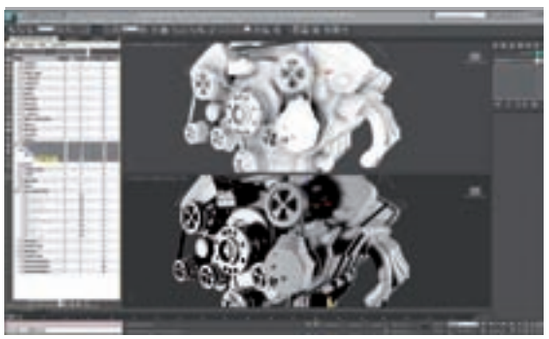
It has long been argued that videogames may be responsible for the failing health of today's youngsters, but a recent survey shows this might not be the case.

In fact, research now seems to point towards the general health, social and career benefits gaming can provide. Chief among these are improved hand-eye coordination, faster reaction times, and improved patience, creativity and precision.



A Check render-like effects as you work – here Exposure Control can be tweaked to perfection

In tandem with this report has come the news from Autodesk of the release of 3ds Max 2010 Software. Previous incarnations have been used to create 3D artwork for videogames including *Fallout 3, Gears of War 2* and *Prince of Persia*, and this latest version introduces around 350 additional features aimed at the 3D modelling, animation and rendering segment.



C

At a pricey £3,050 for a 3ds Max 2010 licence, this is likely to appeal to professional artists and graphics/VFX companies only. There will be a special four page review of Max 2010 in the next issue of 3D Artist. Among key new features are a graphite modelling and texturing system that has introduced hundreds of creative tools over previous versions, as well as a near photo-real quality from the render effects in the viewport display. This will allow users to view render-like effects including soft-shadowing, exposure control and ambient occlusion.

Another big new addition is the xView Mesh Analyzer that lets programmers quickly identify overlapping vertices or open edges, and helps ensure projects are correct and 'game ready' more easily.

Available from spring this year, more details and product videos can be seen at www.autodesk.com.

B Tweak every aspect of your project using the sliders. Alter reflections, shadows and more

C View videos of the new software on Autodesk's YouTube Channel or via the developer's website

© Imagine Publishing Ltd
No unauthorised copying or distribution

workspace3D
To advertise in workspace3D please contact
Cassie Gilbert on 01202 586421 or
cassandra.gilbert@imagine-publishing.co.uk

Houdini makes 3D magic

For lone users or creative studios

Having been used in the creation of mega movies such as *Monsters vs Aliens, The Curious Case of Benjamin Button, Watchmen* and the *Matrix* trilogy, the Houdini family of animation software has a great 3D track record.

Now Side Effects Software, the makers behind the magic, has released Houdini 10 for individual artists and creative studio setups alike. Designed to increase productivity by allowing users to slice up and distribute fluid simulations over a network of computers, Houdini will enable 3D artists to create projects at a much larger scale and size than a single computer can usually handle.

Priced from $99 (or free as part of the Houdini Apprentice program), it's not aimed only at the professional market though, and this is proven through the integration of some pre-made effects. Pyro FX, part of the tenth Houdini edition, will help artists to create great smoke and fire effects, including the ability to use the presets of Billowy Smoke and Fireball – so even those new to 3D can create something spectacular.

Another handy new function is the Interactive Photorealistic Rendering feature, providing feedback to 3D artists so that when objects are tweaked, changed or moved, the software will highlight this and help identify what lighting changes need to be made.

Our other favourite new function is the Crumpling and Tearing simulation in the Cloth Solver feature – which affects dentable and elastic surfaces in 3D imagery, giving a realistic finish.

Available for all the major platforms, you can download the software now. Visit www.sidefx.com for full details.

D

> "Houdini will enable 3D artists to create projects at a much larger scale and size than a single computer can usually handle"

D The Cloth Solver helps you map dents and tears in your on-screen material for a realistic end effect

E Create realistic fire and smoke effects with ease, or choose from the presets for a click-and-go option

Ozone open beta

E-on Software releases Ozone 4.0

Calling all 3ds Max, CINEMA4D, Lightwave, Maya or Softimage users: E-on Software has released a free, open beta version of its Ozone 4.0 plug-in.

Fully functional, the Ozone 4.0 atmospheres behave exactly like natural elements, giving artists a more realistic 3D project. These elements include realistic 3D clouds as well as accurate lighting. And for those users still getting to grips with 3D reality, there are 150 predefined atmospheres to choose from, giving you accurate weather, sunrises, night-time effects and more, and 140 preset cloud shapes.

For full details and to find out how to get your free beta version, visit www.e-onsoftware.com/ozone.

Gaming centre of excellence

Abertay and Peking join forces

2009 sees the start of a new era in videogame creation, after Peking University's School of Software and Microelectronics signed a partnership with Abertay's Scottish Centre of Excellence for Computer Games Education. Proving the high regard for both universities in their field, this move will gain further recognition for the UK games industry.

Globally, the computer games and interactive entertainment industry is worth $47 billion, and is still growing, providing both income and employment to thousands in many countries around the world.

Find out more about the partnership via Abertay University's website at www.abertay.ac.uk.

© Imagine Publishing Ltd
No unauthorised copying or distribution

Studio Access

Fable II

Duncan Evans talks to Ian Lovett and the Lionhead team about *Fable II* and the new download content

B

Lionhead is a developer in England and is now a part of Microsoft Studios

www.lionhead.com

Project *Fable II* plus download content

Description A third-person fantasy adventure with a massive sprawling landscape, weird and wonderful creatures and lots of moral choices. *Knothole Island* download content was released in January, and new DLC, *See the Future*, in May

Country UK

Publisher Microsoft Studios

Software used Softimage

Key people

Ian Lovett
Fable franchise art director

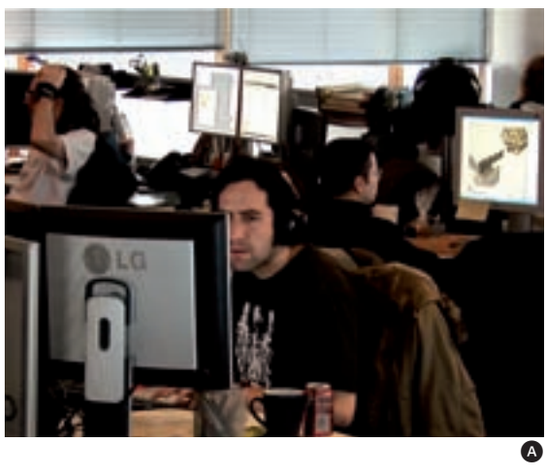
Ian Faichnie
Character and creature art manager

Mark Smart
Lead environment artist/art director DLC

It was in the autumn of 2004 when players of Microsoft's initial version of the Xbox video game system were treated to their first glimpse of Albion, the otherworldly setting of *Fable*. It quickly became the fastest-selling game on Xbox. Sales of the game in which a player's every decision defines who he or she becomes exceeded three million units.

Now a division of Microsoft, the team at Lionhead Studios has upped the already formidable ante with the release of *Fable II* for the Xbox 360. Packed with new life and character-altering choices and decisions, *Fable II* provides epic enhancements to the larger-than-life story, innovative real-time gameplay and sumptuous-looking environment famous from the first version.

After six years of mind-bending work, most people might like to take an extended break. However, even before finishing the first *Fable* game, the Lionhead team members already knew how they wanted to improve the game experience, as well as the way they created the game. "Yes, we were pretty tired," admits Ian Lovett, technical art director at Lionhead Studios. "*Fable* was a six-year-long monster of a project for us, but it was also the greatest experience most of us ever had. The success of the game didn't change the fact that we wanted the sequel to be more efficient, more organised and, as a result, even more creative and open than the original. At the same time, we knew we didn't want to spend another six years on this one. We needed to figure out where we were wasting time."


A

There's nothing like success to boost confidence, and Lovett admits that *Fable*'s obvious popularity made the Lionhead team much more daring for the sequel. "More than anything else, we wanted to break down the barrier between player and game," he says thoughtfully. "Role-playing games (RPGs) can be very intimidating to new players, and we hoped to open their minds and get them involved in the shortest period of time. In retrospect, we probably didn't anticipate just how challenging that would be."

To bring the new game to the Xbox 360, Lionhead needed to rewrite its tools. It therefore seemed like a good time to re-evaluate its toolset to ensure what it was using fitted as closely as possible with its requirements and would allow it to achieve everything it envisaged for *Fable II*.

Portfolio highlights

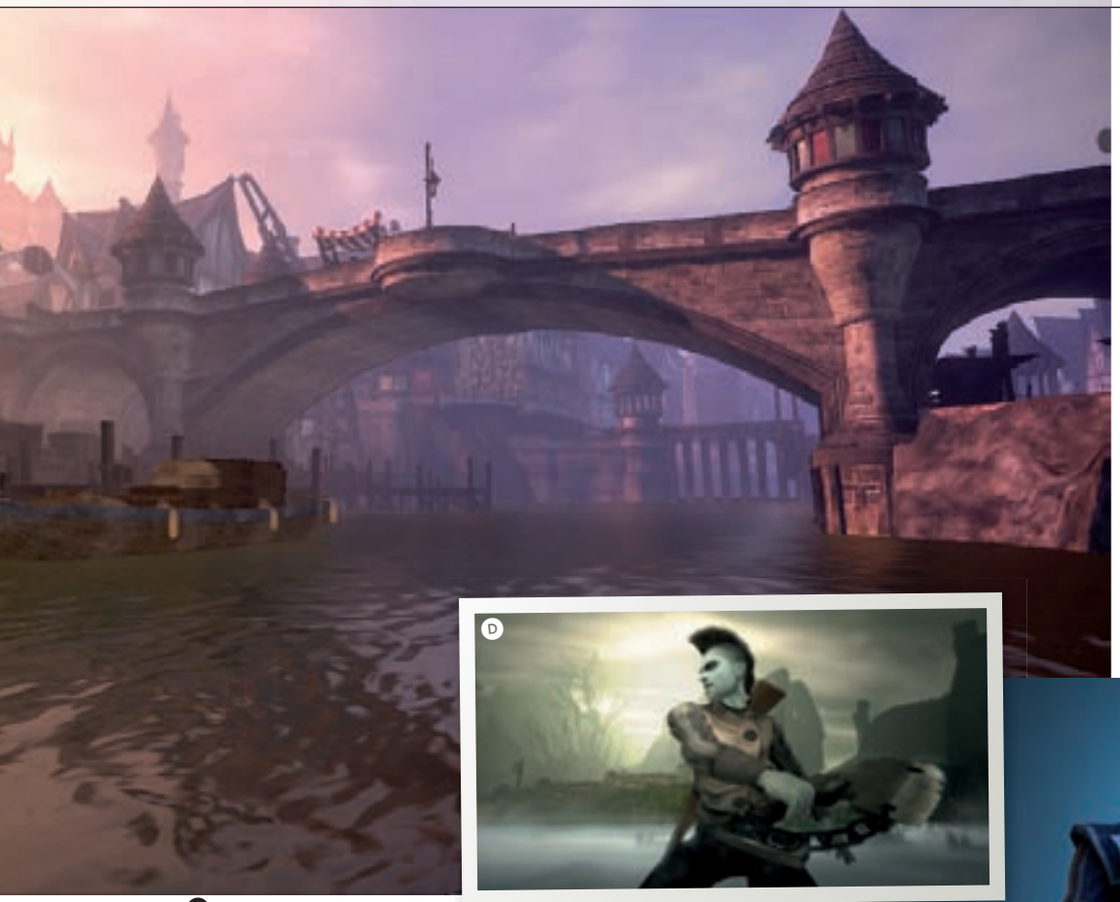
Here's a quick guide to Lionhead's gaming résumé, which includes the classic *Black & White*

2008 *Fable II* Xbox 360
2006 *The Movies Stunts and Effects* PC (add-on)
2006 *Black & White 2: Battle of the Gods* PC (add-on)
2005 *The Movies* PC
2005 *Black & White 2* PC
2005 *Fable: The Lost Chapters* PC and Xbox
2004 *Fable* Xbox
2002 *Black & White: Creature Isle* PC (add-on)
2001 *Black & White* PC

A Despite nearly six years of imaginative and technical development, the *Fable* creative team of 30 artists at Lionhead Studios – previously known as Big Blue Box – possessed modest expectations for their labour of love

© Imagine Publishing Ltd
No unauthorised copying or distribution

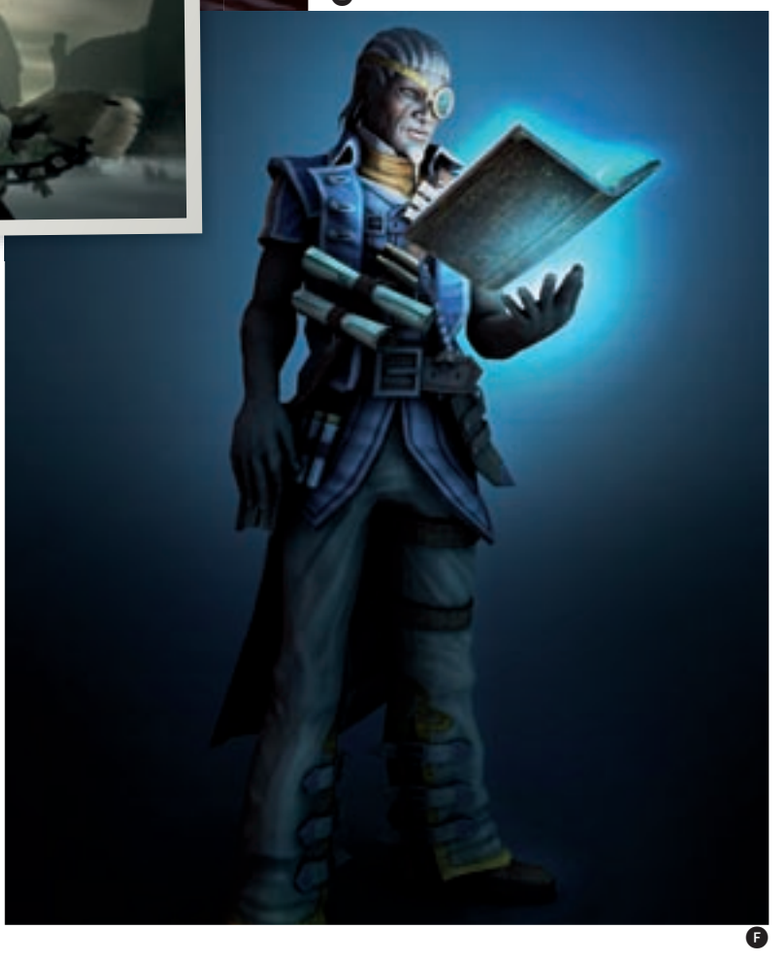
workspace3D
To advertise in workspace3D please contact
Cassie Gilbert on 01202 586421 or
cassandra.gilbert@imagine-publishing.co.uk



E

C

“*Fable* was a six-year-long monster of a project, but it was also the greatest experience”



F

“We looked at a lot of packages,” continues Lovett. “But Autodesk’s Softimage seemed to be the best fit. It had excellent modelling tools as well as extremely flexible animation. It also allowed our artists to easily write bespoke tools. This was great for helping us to create a customised pipeline quickly and efficiently. Getting up and running quickly was a primary concern but moving over went very smoothly. The tool is easy to pick up and our new pipeline was implemented very quickly. New artists joining the team now can get up to speed with the software in just a couple of weeks.”

One of the biggest challenges the team faced in making *Fable II* was the sheer volume of creatures and characters they needed to create. “We had hundreds of villagers – who were split into heads, torsos and legs – as well as a bunch of secondary

B Changing the software wasn’t something the *Fable II* crew decided on lightly, particularly as none of the team had any experience in the recent versions of the software

C It’s worth noting that a team of just two technical artists and two riggers accomplished the enormous task associated with handling, rigging and exporting objects to the game itself

D Since the *Fable II* hero or heroine changes appearance throughout the game, the team had morphs to consider. They created a single rig to get the best performance, using tools developed in Softimage

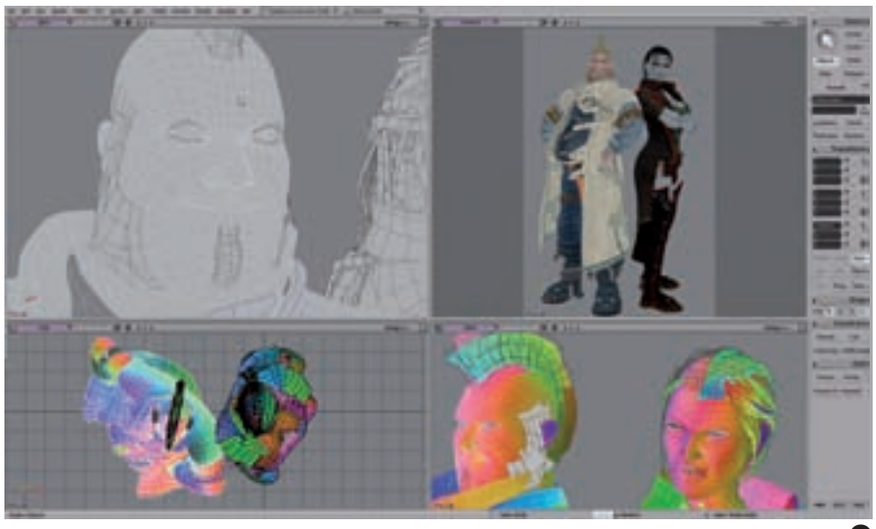
E *See the Future* will give players the chance to come face-to-face with new characters, creatures, events and legendary artefacts

© Imagine Publishing Ltd
No unauthorised copying or distribution

G

H

> One of the biggest challenges the team faced in making *Fable II* was the sheer volume of creatures and characters they needed to create



I

F Ian Lovett points to Softimage's interoperability with other applications: "The fact that we can talk to other applications, including 3ds Max, ZBrush and Adobe Photoshop, has given us a powerful framework for jobs like *Fable II*"

G As well as the vast amount of characters involved, central to *Fable II* is each player's faithful companion – an unerringly loyal canine to accompany players from childhood through the life of the game

H The Lionhead Studios team wanted to allow players to choose their gender and to add more freedom to fully explore a world that is far bigger, richer and deeper than the original

I Lionhead's production pipeline is seamlessly integrated into Softimage through custom toolbars and support tools. "All of our rigs and meshes are annotated with custom properties containing valuable extra information for the game engine," says Ian Faichnie

© Imagine Publishing Ltd
No unauthorised copying or distribution

workspace3D
To advertise in workspace3D please contact
Cassie Gilbert on 01202 586421 or
cassandra.gilbert@imagine-publishing.co.uk

K

J

characters, creatures and enemies," says Ian Faichnie, character and creature art manager on *Fable II*.

The characters and creatures also varied drastically in size and fundamental characteristics. This meant the team was faced with a potentially prohibitive number of animations. "We created a deformation hierarchy in our principle rig," says Faichnie. "We would read out all transformation data in XML. Instead of reading straight transformation data, however, we calculated the size of the offsets between our template character and the specific character being animated. That way, we were able to export all our individual characters, regardless of their proportions, to the correctly sized skeleton."

One feature of Softimage that helped out was the Generalised Attribute Transfer Operator or GATOR. "GATOR has been especially useful," says Lovett. "It allowed us to transfer vertex weighting data from one model to another with one easy method. We also had huge amounts of assets that required complex skinning. GATOR helped us form a base from which to start, saving us a massive amount of time."

L

In January 2009 Lionhead released *Knothole Island*, the first free content download for *Fable II*. For Mark Smart, lead environment artist/art director DLC, it posed a number of challenges. "We wanted *Knothole Island* to be different from the main game but still retain the main elements that make *Fable II* fantastic, such as multiple quests and moral choices," says Smart. "To achieve this we had to create a unique setting, as well as finding a clever way of giving the player more items, costumes and weapons."

The success of *Knothole Island* cemented the team's decision to create another download. Released in May, *See the Future* gives players the chance to heed the call for a hero to restore colour and balance to the world, or else let Albion fall to the wayside. If they succeed they'll get the ultimate reward – a quest that provides a vision of Albion's future.

The Lionhead team had to overcome considerable challenges in the making of such a complex game, and needed an engine with a flexible pipeline like Softimage to make it happen. The *Fable* franchise is on a roll, and with the addition of two new downloads, Albion's future looks bright.

J *Fable II* now allows the user to choose male or female characters, which automatically doubled the character count

K The *Knothole Island* download challenges the Hero to lift the curses of two items that have come into possession of Murgo the Trader, undergoing challenges unlike anything a Hero has ever faced before to do so

L *See the Future* is not only about the future, but also the past and present. It allows players to revisit places and memories from their past, experience an alternative present and look into the future to see what the *Fable* world has in

© Imagine Publishing Ltd
No unauthorised copying or distribution

Industry insider

Daren Horley

Head of Texture Painting, Framestore-CFC

Each issue, 3D Artist finds out how the top people in the 3D industry got their jobs and what you need to know to get a foot in the door

About the insider

Job Head of Texture Painting, Framestore-CFC

Education Art college Illustration courses, then learned digital tools on the job

Company website www.framestore-cfc.com

Personal website www.darenhorley.com

Biography Digital artist, lives in a small village in Southeast England. Trained as an illustrator, switched career in the mid-Nineties to digital VFX. Has an unhealthy obsession with dinosaurs. Needs to be within sight of a tree to be truly relaxed, which is a problem working in London. Married with two kids

Daren Horley is head of Texture Painting at Framestore where he has multiple roles, including texture painting, matte painting and concept designing. Sometimes he also creates artwork for promotional print images on projects. His most recent high-profile projects have included *The Dark Knight*, *The Golden Compass* and *The Chronicles of Narnia: Prince Caspian*.

3D Artist: *What kind of university course did you do and training have you had?*
Daren Horley: I did an HND course in Illustration, where I learnt how to paint photorealistically with oils, gouache and acrylics. This was a skill that was in demand, before Photoshop changed everything. I gained computer skills at Eidos a few years later. I started to do some illustrations using Photoshop and fell in love with it. No mixing messy paint, no cleaning a clogged airbrush or cutting masking film with a scalpel. An Undo button, brilliant!

A Medusa concept art for a movie that didn't get made

3DA: *For today's generation of students, what is the kind of educational grounding they need to get a first job in texture or matte painting?*
DH: Today, most people who want a career as a VFX artist specialising in texture or matte painting would enrol in a digital VFX course. They would gain general training in all the disciplines involved, create a reel and apply for work in the industry. Unfortunately, this usually isn't enough to become a VFX painter. Most of the people I have hired have come from a different route such as a traditional art background and have moved into digital art, then into VFX. It's essential to learn how to draw and paint using natural media to a highly realistic level first, then aim to make the move into texture/matte painting.

Unfortunately, digital VFX courses don't give anything like the artistic training required. A texture/matte painter has it hard because they need to undergo training twice. Once to learn to be an artist, then again to learn to use digital tools.

3DA: *How did you get it and what was the motivation for getting a job at Framestore-CFC?*
DH: I saw an ad placed by Framestore for a texture artist to work on an ambitious TV series for the BBC about dinosaurs. This eventually became known as *Walking with Dinosaurs*. At that time I had no VFX experience but I was passionately interested in dinosaurs through buying a book called *Dinosaurs: A Global View*. The BBC series was a chance to get involved in dinosaur computer animation, a dream for me. Despite no VFX experience – all I had was an illustration portfolio and a few digital paintings – Framestore saw potential and hired me.

3DA: *What software packages and tools do you use at Framestore?*
DH: For texture painting, primarily Adobe Photoshop. We also use Maxon Bodypaint. It's the best 3D paint package out there, I can't believe I used to paint textures without it. The things we used to have to put up with. Life got so much easier with a decent 3D paint app. Matte painters also use Maya. There are some proprietary matte painting tools also used. Photoshop is a really powerful tool.

3DA: *Do you think there is a shortage of skilled texture artists working using digital media?*

Portfolio highlights

Have a look at these amazing projects that Daren has worked on since joining Framestore

2010 *Clash of the Titans*
2010 *Prince Of Persia*
2010 *The Spook's Apprentice*
2009 *Heartless*
2008 *Primeval 3*
2008 *The Dark Knight*
2008 *The Chronicles of Narnia: Prince Caspian*
2007 *The Golden Compass*
2007 *Primeval*
2007 *Blood and Chocolate*
2006 *Superman Returns*
2006 *Ocean Odyssey*
2006 *Prehistoric Park*
2005 *Walking with Monsters*
2004 *The Last Dragon*
2004 *Space Odyssey*
2004 *Thunderbirds*
2003 *Underworld*
2003 *Sea Monsters: A Walking with Dinosaurs Special*
2002 *Land Of Giants: A Walking with Dinosaurs Special*
2002 *The Giant Claw: A Walking with Dinosaurs Special*
2002 *Harry Potter and the Chamber of Secrets*
2002 *The Hound of the Baskervilles*
2001 *The Lost World*
2001 *Dinotopia*
2001 *Walking with Beasts*
2001 *The Ballad of Big Al*
2000 *Jason and the Argonauts*
2000 *The Beach*
1999 *Walking with Dinosaurs*

© Imagine Publishing Ltd
No unauthorised copying or distribution

workspace3D
To advertise in workspace3D please contact
Cassie Gilbert on 01202 586421 or
cassandra.gilbert@imagine-publishing.co.uk

B

C

D

D Two-Face
Harvey Dent from *The Dark Knight*. The schedule was insane for this. Four painters were involved in this texture

E

DH: Oh boy is there a shortage. I get very few CVs. Generally the profession is well stocked, but good texture painters are a rare breed. It's because of the shift in training. Realistic illustration has died. That's where most of our successful texture painters came from. The push from VFX schools is for artists skilled in the use of tools like Maya. That's great for VFX jobs, but few people have the art training needed for texture/matte painting. Most applicants can paint hard surface textures, but to do photoreal hero creatures is another level.

3DA: *What are the key skills required to work in today's computer graphics industry, with particular relevance to film and TV work, for texture and matte painting?*

DH: First and foremost observation. You need the ability to observe, absorb, store information & then apply it in your work. Look at the way colouration changes in an animal's skin. Is it surface pigmentation, or underlaying translucency? Maybe dirt or weathering, how does the texture affect the way an elephant's skin weathers. How does light react to a surface? You need to gather a library of images that will be useful in your work. You need to think laterally, how can you transpose one detail to fit the brief that requires something different? You also need to be able to understand a brief even if it's not made completely clear. Be prepared to have what you think is a great idea rejected in favor of a less appealing one. In other words, don't get overly attached to your work. You need to work well in a team, be aware that you will be providing assets that will be used in a pipeline, make life easy for others by understanding their requirements.

F

3DA: *Professionally, what's the most satisfying project you've worked on and why?*

DH: The original series of Walking With Dinosaurs was a life changing event for me. The second project that I liked was the Golden Compass. It was great source material. The fact that we got to do the main characters, the bears was great.

B *The Golden Compass*'s Iorek posed for a magazine cover. He doesn't floss by the look of it

C Concept art for series three of *Primeval*. A dinosaur (Dracorex) is mistaken for a dragon

E Concept design for series three of *Primeval*

F Concept painting for *Prince Caspian*. Making water look like hair ain't easy...

© Imagine Publishing Ltd
No unauthorised copying or distribution

+ The best course and freshest talent from universities around the globe...

Staffordshire University

BSc (Hons) Digital Film and 3D Animation

Staffordshire University is in the heart of the West Midlands, bordered by Warwickshire, Leicestershire, Derbyshire, Worcestershire and Cheshire. With major cities such as Birmingham and Manchester on its doorstep, as well as great attractions like Alton Towers and the V Festival to brag about, it's easy to see why thousands of people sign up to study here each year.

What's more, Staffordshire University is home to some of the top 3D degree courses in the country. One such course is BSc (Hons) Digital Film and 3D Animation Technology, which has been running since 2003. This award delivers a wide selection of topics within the 3D animation and post-production spectrum, using industry-standard technologies like Maya, Final Cut Pro and the Adobe Creative Suite. "People often don't realise the number of roles available in the industry, so it's nice to see students who initially want to model and then become interested in the role of a lighting technical artist or setup artist," says Daniel McCarthy, award leader for Digital Film and 3D Animation course at Staffordshire University.

The first year of the course develops core 3D, 2D and filmmaking skills. Students learn to shoot and edit short films and produce 3D scenes. The second year is focused more on motion graphics, with a detailed study on After Effects animation and green screen shooting. 3D animation is further developed in this module, using 3ds Max and Maya.

> "Learning the pipeline behind a visual effects shot was really useful to give me an idea of the kinds of roles available in the industry"
>
> **Robin Brown** Rotoscope artist

The final year is focused on visual effects covering match moving, compositing and lighting in CG. During this year, students create a major final project. Both student and tutor decide upon the topic, and students are actively encouraged to focus on the area they'd like to pursue as a career.

All the awards are modular and contain some great options, enabling students to work more specifically on 3D skills such as character modelling, animation or motion-capture work and rigging. Other study topics such as cinematography, digital editing and live studio production can also be chosen as areas to specialise in.

The beauty of this course is that it prepares students for a range of roles within the 3D industry. On completion, they have a broad range of skills that will help them make the transition from study into full-time employment.

If this sounds like the type of course for you, see www.staffs.ac.uk for more.

STAFFORDSHIRE UNIVERSITY

Course details

Tel +44 (0)1782 294000

Web www.staffs.ac.uk

Duration Three years (part-time route available)

Fees £3,145 a year

ENTRY REQUIREMENTS

All candidates are individually assessed on their qualifications, skills and experience. However, a typical three A level or BTEC National Diploma offer will be 280 UCAS tariff points

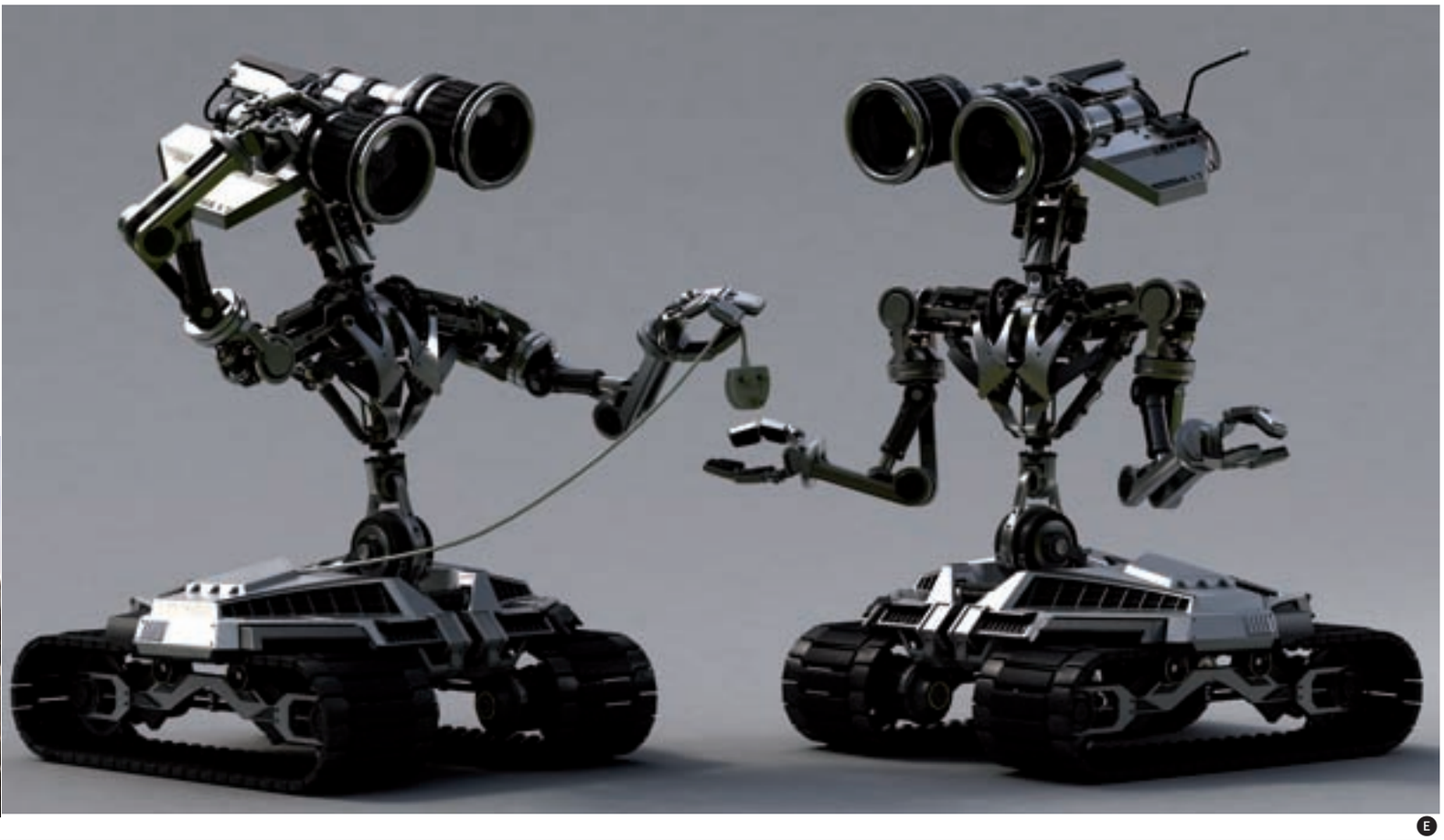
A Living Room
» **Tim Hawker**
Time taken: Two days
3ds Max, V-Ray and Photoshop
This scene was created to familiarise myself with the V-Ray renderer. Due to the complex lighting, rendering times were quite high and this image took two and a half hours to render.

B Cityscape
» **Richard Mason**
Time taken: Four weeks
Maya, mental ray
This piece was created as part of a module where students were asked to build a futuristic cityscape.It was built in Maya with building replication and alteration to provide a varied cityscape.

© Imagine Publishing Ltd
No unauthorised copying or distribution

C Henry's Grandma
» **Anthony Gregory**
Time taken: About eight weeks (with others)
3ds Max
Animation to study characterisation. Squash-and-stretch cartoon-style rigs and models were animated to create a short sketch of the interaction between characters driven by goals and needs. In particular, status play was used to govern their behaviour.

D



E

D XK Jag Full
» **Graham Linefield**
Time taken: One month (with other assignments) to build the model, and one month to finalise and add materials
3ds Max and V-Ray
My final-year project is fuelled by my passion for cars. I have drawn them since before I went to school, and creating them in CG is the continuation of this endless obsession I have for these expensive but wonderful machines.

E Robots
» **Ian Baird**
Time taken: Two months
3ds Max 2009, V-Ray, and Photoshop
I created these robots with the intention of animating them for my final-year project. I aimed to create two detailed robotic characters that express emotion and personality through movement.

© Imagine Publishing Ltd
No unauthorised copying or distribution

Uni focus

F

G

H

F Housing Estate Vis
» **Ben Wright**
Time taken: Seven days
3ds Max Design 2009, V-Ray 1.50 and Photoshop CS3
This image was created in the style of modern housing development billboards and building site visualisations. The building was simple, but the window reflections, lawn and trees were tricky. The scene is lit by a Global Illumination Skylight simulating an overcast day effect.

G Central London Office
» **Ben Wright**
Time taken: Five days. Render time: About four hours
3ds Max Design 2009, V-Ray 1.50 and Photoshop CS3
The aim of this image was to try and simulate the look of a modern stylish office environment. Most objects in the scene offer a degree of reflectivity, and the frosted glass desks were used to further the open-plan theme. The scene was lit by a large invisible area light at the front window, with Global Illumination systems providing secondary lighting.

H Sony Camera (DSC-H10)
» **Tim Hawker**
Time taken: Five days
3ds Max, V-Ray and Photoshop
After creating the phone, I went on to create a more complex object with relatively difficult organic-like curves. It was far more difficult to model than the phone, but I completed it in a shorter time due to my improved modelling skills.

© Imagine Publishing Ltd
No unauthorised copying or distribution

I

J Sony NWZ-A828K Walkman
» **Ben Wright**
Time taken: Four days
3ds Max Design 2009, V-Ray 1.50, PS CS3
I wanted to replicate a macro photo of a small detailed object. Lighting setup was several V-Ray Area Lights for general illumination and an HDR environment map to pick out highlights on the metal parts.

I Tripod
» **Daniel Adeyemi**
Time taken: A week
Maya, PFTrack, Combustion, PS
I saw a rough 3D model of a *War of the Worlds* tripod. PFTrack was used to match move the scene, and HDRI for lighting. I used Combustion 4 for compositing.

> "I found the nature of assignments we were given was flexible enough to allow me to develop my skills in the areas I wanted to pursue"
>
> **Joe Whittingham –** Vehicle artist, THQ

© Imagine Publishing Ltd
No unauthorised copying or distribution

Global student galleries

Check out the 3D galleries of students from courses and universities all around the world

Welcome to the new Global student gallery section in 3D Artist where we take you around the world to see what is being created in the land of learning. Each issue we'll select the works of a few individuals who have produced interesting, exciting or just plain excellent work and showcase it here. Do you think your portfolio is good enough to appear in the Global gallery? Well, for a start you must be a student, whether that's full time, part time, by mail or online. All are equally valid. Also, if you graduated from a 3D graphics course within the last 12 months then that's great as well. In the first instance, get in touch with editor Duncan Evans (**duncan.evans@imagine-publishing.co.uk**), preferably with a link to your portfolio so he can have a quick look at your work. List your name, what university you went to and the course you did or are doing.

Artist info

Martin J Knight

Personal portfolio site www.martinjknight.com
University website www.tvu.ac.uk
Country England
Software used 3ds Max 2009

Martin is currently studying a BA (Hons) degree in Digital Animation at Thames Valley University, London.

Artist info

Khaled Amer El Ashry

Personal portfolio site http://kworld.cgsociety.org/gallery/
University website www.alex.edu.eg
Country Egypt
Software used Rhino 4.0, 3ds Max 2008

Khaled is a fourth-year Architecture student at the Fine Arts College, Alexandria University (Architecture Department). He is working on his graduation project, The Performing Arts Center, in addition to architecture design and Rhino 4.0 courses, which includes parametric design with the Grasshopper plug-in.

A Alien Universal Explorer
» **Martin J Knight**
3ds Max 2009
This is a part of an animated short called Chupa (Chupa) that a fellow student (Philip Mehr) and I are working on, about an alien who finds an island on Earth, full of things to explore and document. It was created in 3ds Max, rendered with mental ray, Final Gather, Global Illumination and a depth of field on the camera.

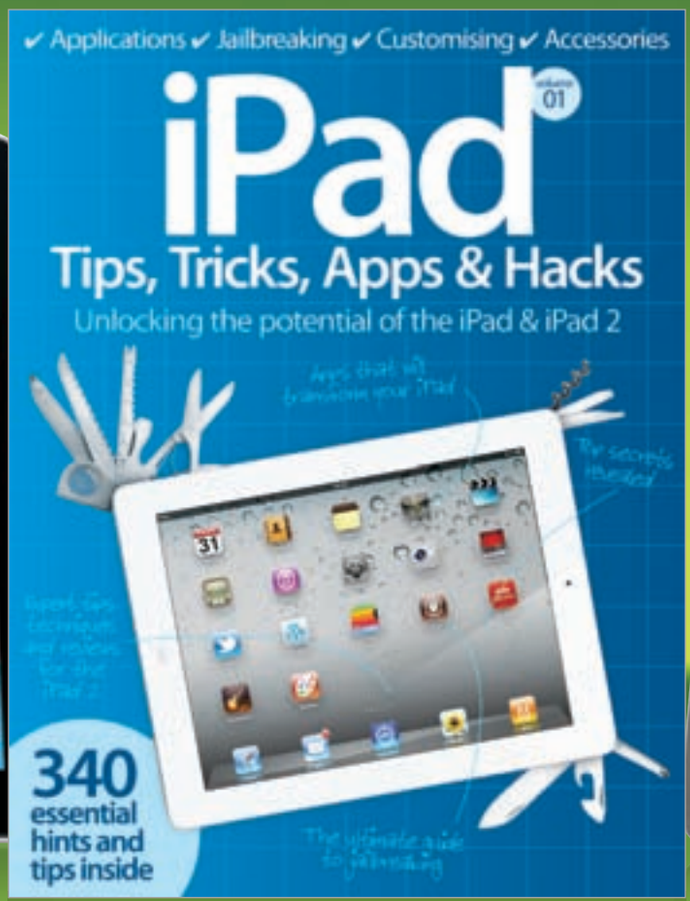
B Chamber of Commerce
» **Khaled Amer El Ashry**
3ds Max
The project is designed to be the new face of El Alamein in Egypt, attracting new business to the city. It was rendered with the V-Ray engine.

© Imagine Publishing Ltd
No unauthorised copying or distribution

We don't keep secrets

iPhone
Tips, Tricks, Apps & Hacks
The insider's guide to unlocking the potential of the iPhone
340
essential hints and tips inside

iPad



Printed full colour large format book

Kindle

Tips & Tricks™

Learn the truth about iPhone, iPad, Android, Photoshop and more with the Tips & Tricks series' expert advice and tutorials

Also in this series

Bookazines
eBooks • Apps
www.imaginebookshop.co.uk

Now available on

HIGH ST. BUY IN STORE — High street
amazon — Kindle Store
ip — ImagineShop.co.uk
App Store